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Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

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NO. V.

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TIME FOR PLANTING INDIAN CORN.

THE time of planting Indian corn varies, according to the locality or season in which it is intended to grow. In the southern portions of the United States, it is generally planted in January or February, whereas, at the extreme north, or east, it is not usually done before the latter part of May or early in June.

It is a rule with many, to make the flowering or unfolding of the leaves of vegetation, and the appearance, or pairing, of certain birds, as natural guides. For instance, some plant when the apple tree is bursting its blossom buds, or when the June berry or shad bush is in full blow; others adhere to the old Indian rule, in planting as soon as the leaf of the white oak is of the size of a squirrel's ear; while not a few listen to the notes of the whip-poor-will and cuckoo, as unerring guides. But we have ever found, from experience, that a period somewhat later than those just named, when the ground has become sufficiently warmed by vernal heat to cause a speedy germination of the seed, is far more favorable and safer from late frosts and the depredations of blackbirds and crows. Corn, planted in the middle and northern states, from the 20th of May to the 1st of June, with proper management, can be made to vegetate in four or five days, and in a week more, will be large enough to weed. If planted too early, it will often lie in the ground two or three weeks before it will come up, and by the middle of June, it will not be near so large nor vigorous as that planted towards the end of May.

Previous to planting, the germination of the corn may be hastened by steeping it, as directed at pp. 54, 90, of the current volume; and the kernel may be completely protected against the ravages of grubs, wire worms, birds, squirrels, &c., by smearing it over with tar, dissolved in boiling

water, and then rolling it in powdered plaster until it is dry. Thus treated, it has been known to come up in 24 hours.

CULTIVATION OF TOMATOS.

THE common love apple, or tomato (*Lycopersicum esculentum*), is a native of South America; and, like the potato, is extensively cultivated in every climate in which it will mature. The different uses of its fruit, for culinary and other purposes, are so varied, that it serves as a dainty dish every day in the year. Therefore, it is for the interest of the farmer, the planter, and the market gardener to employ the best and the most expeditious means at their command, to produce as early a supply as possible; and, also, to continue its culture as late as the season will permit.

Choice of Varieties.—The varieties most esteemed and in general cultivation may be noted as follows:—

1. *Large Smooth-skinned Red*, an excellent variety, differing from all other large sorts, in having a smooth skin entirely free from protuberances or inequalities of any kind.

2. *Common Large Red*, with the fruit depressed at both ends, furrowed on the sides, and varying in circumference, from three to eighteen inches. It is a prolific bearer and is universally cultivated.

3. *Pear-shaped, Pink-red*, a variety much smaller than either of the preceding, very fleshy, and contains fewer seeds. It is considered equally as good for stewing; and for pickling, it is much preferred.

4. *Cherry-shaped Red*, a variety bearing a beautiful little fruit, much resembling a cherry in size and appearance, and is usually cultivated expressly for pickles.

Soil and Culture.—The soil best adapted for the growth of the tomato, is a light, rich, sandy loam,

previously well worked and manured. In order to obtain early fruit, the seeds should be sown in a hot bed, or in boxes of light, rich earth, set at the kitchen windows, about the middle of March or the beginning of April. The bed, or boxes, should be exposed to the rays of the sun as much as possible, but at all times secure from frost, and the young plants should receive an abundance of fresh air in the middle of the day. If the seeds are but slightly covered with earth, they will soon shoot up 2 inches in height, when they may be pricked out, 3 inches apart, into another hot bed, or singly into small boxes, or pots, placed near the kitchen windows, so that they may grow more stocky and the better be removed. It will be necessary to sprinkle them occasionally with water, as the soil becomes dry, and to stir the earth often about their roots. As soon as the season will permit, without danger from frosts, say by the latter part of April or early in May, they may be carefully transplanted into open ground, with a ball of earth attached, setting them in a row, 3 feet apart, from plant to plant, along the southerly side of a close fence, or in some other sheltered place, where they can receive the full benefit of the sun; or they may be planted in hills at 4 feet distant each way, care being observed to defend them, if the nights be cold, by mats, hand glasses, or pots.

Those who have not the conveniences for forcing the plants, as directed above, may bring them to perfection by sowing the seeds in hills, in a warm, light soil, the last week in April or first week in May; and if the situation be favorable, with good management, the yield will be abundant, but later than by the other mode two or three weeks. An ounce of seeds will produce, at least, 60 good healthy plants.

In the course of the season, the plants may be thinned out, one to each hill; cultivated or hoed in a similar manner as the potato; and, as soon as the vines begin to run, they may be trained on a fence, or trellis; or what would be more convenient in an open garden or field, to allow each plant to rest on a hoop, or square frame, supported on small crotches driven into the ground. In order to hasten the maturity and size of the fruit, the tip ends of the earlier plants should be nipped off, as soon as the young tomatoes are set.

Those living in a high latitude, may set their plants at the foot of a bed, sloping steeply towards the south, and as the vines begin to run, peg them down close to the surface of the soil, where they will frequently strike root at their joints. As soon as the branches of the vines meet, their tips must be cut off, the lateral shoots removed, and their leaves thinned out, in order that the fruit may become well ripened by exposure to the sun. Under favorable circumstances, each plant, so treated, will often produce 20 lbs. of fruit.

For further information on the culture and use of the tomato, see pp. 90, 91, vol. i.; pp. 269, 282, 303, vol. v.; and pp. 253, 254, vol. vi., of the Agriculturist.

CARE OF FRUIT TREES.—Do not forget to apply leached ashes, charcoal, and oyster-shell lime to the roots of your fruit trees. See also that the moss and scaly bark is carefully removed from their trunks.

APPLE ORCHARDS.—NO. 8.

Attacks from Caterpillars.—The tender buds and young leaves of the apple tree are sometimes attacked, in May and June, by multitudes of small caterpillars, described by Dr. Harris, under the name of the eye-spotted penthina (*Penthina oculana*). They are of a pale and dull-brown color, warty and slightly downy, with the head and the top of the first ring of a dark shining brown. They usually acquire their growth by the middle of June, at which time they transform, and come out in the winged state early in July. These caterpillars live singly in the buds or opening foliage, which they fasten together and devour. The only sure mode recommended to destroy them is, to crush the withered clusters of leaves containing them or their chrysalides, and thus "nip them in the bud."

The apple tree is also infested by the larvae of the white-marked orgia, or tussock moth (*Orgia leucostigma*). These small, slender caterpillars are of a bright yellow color, and are sparingly clothed with long and fine yellow hairs on the sides of their bodies. The females, in the adult state, though seemingly wingless, have two little scales, or stunted wings, while the males have large ashen-grey wings, the upper pair of which, are crossed by dark wavy bands, with a small black spot near the tip, and a minute white crescent near the outer hind angle. The body of the male is small and slender, with a row of little tufts along the back, and the wings expand one inch and three eighths. The females are of a lighter grey than the males, and their bodies are much thicker, and are of an oblong-oval shape. Different broods of these insects appear at various times, in the course of the summer, but the greater number come to maturity and lay their eggs in the latter part of August and the beginning of September, which are not hatched before the following spring. It is stated by the late Mr. B. H. Ives, of Salem, Massachusetts, in vol. i., p. 52, of Hovey's "Magazine of Horticulture," that on passing through an apple orchard in February, he "perceived nearly all the trees speckled with occasional dead leaves adhering so firmly to the branches as to require considerable force to dislodge them. Each leaf covered a small patch of from one to two hundred eggs, united together, as well as the leaf, by a gummy and silken fibre, peculiar to the moth." In the March following, he visited the same orchard, and as an experiment, cleared three trees, from which he took twenty-one bunches of eggs. The remainder of the trees he left untouched until the 10th of May, when he found the caterpillars were hatched from the egg, and had commenced their slow, but sure work of destruction. He watched them from time to time, until many branches had been spoiled of their leaves, and in the autumn were entirely destitute of fruit; while the three trees, which had been cleared of the eggs, were flush with foliage, each limb, without exception, ripening its fruit.

The American lackey caterpillar (*Clisiocampa americana*), where proper attention has not been paid to prevent its ravages, prevails to such an extent as almost entirely to strip the orchards of their foliage. This insect, from its abundance in all parts of the country, and being known almost ex-

clusively in common language, by the name of *the caterpillar*, requires no further description. Various methods have been recommended to destroy this pest, such as burning and crushing the nests, early in the morning, or at evening while the vermin are at their repose, and the collection and destruction, of their eggs in the winter, or early part of spring. If a liberal bounty for the collection of the eggs were to be offered, as was suggested by the late Judge Lowell, and continued for the space of ten years, this enemy to our orchards, would be nearly exterminated at the end of that time.

Another insect, which may be called the tent caterpillar of the forest (*Clisiocampa sylvatica*), very much resembling the preceding in its habits, preys upon the leaves of the oak, the hickory, and more rarely upon those of the apple tree. Two other species of gregarious caterpillars, *Notodonta concinna* and *Pygæra ministra*, of Harris, also swarm on the apple, cherry, and plum trees, towards the end of summer, stripping whole branches of their leaves. The caterpillar of the American lappet moth (*Gastropacha americana*), appears in September, and makes the leaves of the apple its food, which it only eats in the night. A large green caterpillar (*Attacus cecropia*), also makes its appearance on the apple tree in the months of July and August, as well as upon the currant, the berbery, the cherry, and the plum.

Attack from Canker Worms.—One of the greatest pests of our apple orchards, as well as of the foliage of the cherry, the plum, the linden, and other trees, is the canker-worm (*Phalæna vernata*), first described by Professor Peck, of Harvard University. According to Dr. Harris, the canker worm moths begin to make their appearance after the first hard frost in the autumn, usually towards the end of October, and they continue to come forth, in greater or smaller numbers, according to the mildness or severity of the weather, after the frosts have begun. Their general time of rising, however, is in the spring, beginning about the middle of March, but sometimes before, and at others after, this time; and they continue to come forth for the space of about three weeks. It has been observed that there are more females than males among those that appear in the autumn and winter, and that the males are the most abundant in the spring. The sluggish and wingless females instinctively make their way towards the nearest trees, and creep slowly up their trunks. In a few days afterwards they are followed by the winged and active males, which flutter about and accompany them in their ascent, during which, the two sexes pair. Soon after this, the females lay their eggs upon the branches of the trees, placing them on their ends, close together, in rows, forming clusters of 60 to 100 or more eggs, which is the number usually laid by each. The eggs are glued to each other, and to the bark, by a greyish varnish, which is impervious to water; and the clusters are thus securely fastened in the forks of the small branches, or close to the young twigs and buds. The eggs are usually hatched between the first and the middle of May, or about the time that the red currant is in blossom, and the young leaves of the apple tree begin to expand. The little canker worms, upon making their escape from the eggs, gather upon the tender leaves, and on the

occurrence of cold and wet weather, seek shelter in the bosom of a bud, or in the flowers, when the latter appear. The leaves, when first attacked, will be found pierced with small holes, which become larger and more irregular as the worms increase in size, until nearly all the pulpy parts are consumed.

A very great difference of color is observable among these worms of different ages, and even among those of the same age and size. When very young, they have two minute warts on the top of the last rings, and they are then generally of a blackish or dusky-brown color, with a yellowish stripe on each side of the body; there are two whitish bands across the head; and the belly is whitish. When fully grown, these individuals become ash-colored on the back, and black on the sides, below which, the pale, yellowish line remains. Some are found of a dull greenish-yellow, and others of a clay color, with slender, interrupted blackish lines on the sides, and small spots of the same color on the back. The head and feet partake of the general color of the body; the belly is paler. When not eating, they remain stretched out, at full length, and resting on their fore and hind legs, beneath the leaves. When fully grown, and well fed, they measure nearly, or quite an inch in length. They cease feeding when about four weeks old, at which time they begin to quit the trees. Some creep down by the trunks, but great numbers let themselves down by their slender threads from the branches, their instinct prompting them to get to the ground by the easiest and most direct course possible. After reaching the ground, they immediately burrow into the earth, to the depth of two to six inches, unless prevented by weakness, or by the hardness of the soil. In the latter case, they die, or undergo their transformations on the surface. In the former, they make little cavities, or cells, in the ground, by turning round repeatedly, and fastening the loose grains of earth about them with a few silken threads; and, within twenty-four hours afterwards, they are changed into chrysalides, and in due time, emerge from these retreats in their perfect forms.

In order to protect the trees from the ravages of the canker worm, the only thing that would seem necessary would be to prevent the wingless females from ascending the trunks to deposit their eggs. The expedients usually resorted to, for this purpose, are, to fit a close collar of lead, tin, wood, or other materials, around the trunks of the trees, or a circular trough filled with oil. The application of belts of tar, liquid India rubber, and other viscid substances, to the bodies of the trees, have been employed with partial success.

OPPOSITE PROPERTIES OF PLANTS AND ANIMALS.
—Vegetables are stationary; animals locomotive. Vegetables decompose carbonic acid, water, and ammoniacal salts; animals absorb them. Vegetables absorb heat and electricity; animals generate them. Vegetables produce the neutral azotized, or fatty substances, sugar, starch, and gum; animals consume them. In short, a vegetable is an apparatus of reduction, and an animal one of oxydation.—*Annales de Chim. et Phys.*

IMPROVED PUMPS FOR CISTERNS, OR WELLS.

THESE pumps, which are constructed entirely of metal, are $2\frac{1}{2}$ inches in diameter within the cylinder, double-acting, and drawing water both at the upward and downward strokes.

With a 6-inch stroke, it will raise from 10 to 15 gallons per minute, according to the height the water is required to be raised. By means of a horizontal pipe, leading to a distant well, or spring, the water can readily be brought to the house, or barn yard, provided the height between the spring and pump does not exceed twenty-five feet. The apparatus is so constructed, that it can instantly be converted into a force pump, by which the water can be conveyed at once to the upper parts of a house. Price \$25—air barrel and pipe extra.

CISTERN HAND PUMP.—This implement, which is denoted by fig. 31, is formed of cast iron, and answers an excellent purpose for raising water from a cistern, or elsewhere, from a depth of thirty-two feet. It works well with a $1\frac{1}{4}$ -inch pipe, made of lead, copper, tin, or wood. Price \$4.50—pipe extra.

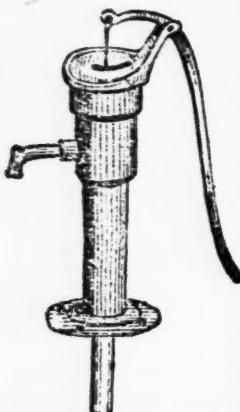


FIG. 31.

SPRING BUDDING.

THE operation of budding fruit trees and shrubs may be performed as well in the spring as in summer—a fact of some importance, particularly when applied to the peach, the walnut, and other trees that cannot be grafted with success. Hence, it is obvious, that, by budding them in the spring, a year will be gained in their growth.

The buds intended to be employed for this purpose, should be preserved like grafts, in a cool, moist place, on slips, or cuttings taken from the tree a few weeks before the natural period of unfolding its leaves. As soon as the trees are so far advanced that the bark will separate freely from the wood, the buds may be cut out of the slips and inserted agreeably to the directions given at p. 208, of our third volume.

FIRE-PROOF IRON SAFES.

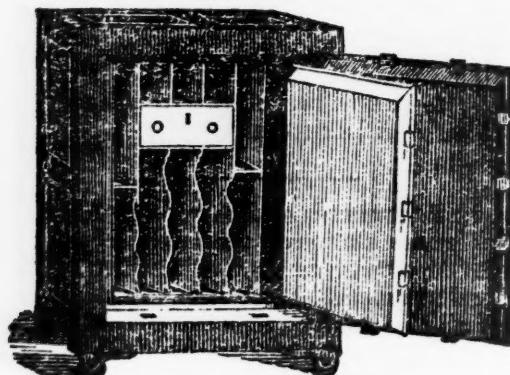


FIG. 32.

THESE almost indispensable safeguards to every

man of business, are made of various sizes, and will afford security for valuable papers, money, plate, jewels, &c., not only against fire, but when properly constructed, are proof against any ordinary attempt at robbery. Prices from \$12 to \$500.

THE CAST-IRON PLOW.

It is not often that a more unjust claim is made upon Congress, than that of the heirs of Jethro Wood, for a law to be passed to extend his patent of the cast-iron plow fourteen years longer, for their benefit.* By this law the heirs would have obtained the privilege of exacting a tax of fifty cents, on every cast-iron plow made in the United States, which would have probably given them *half a million of dollars annually*, all of which must have come out of the hard earnings of the farmer and planter. Owing to the Senate at Washington, not being properly acquainted with the facts of the case, a bill extending this patent passed it unanimously; but in the House of Representatives, members paid more attention to the merits of the case, and the result was, that a majority of the Committee on Patents reported against extending Wood's patent, and their report has been laid upon the table, where we trust it will sleep for this session. But as the partisans of this measure are very active, it behoves the farmers to be on their guard; and they will do well to forward petitions to their Representatives in Congress, praying them to oppose the extension of this patent, whenever the bill is likely to be called up.

At page 121 and 132, of our last number, we gave as much of the history of the cast-iron plow as we could then obtain; showing that others in England, and in this country, had preceded Jethro Wood many years, in the invention and use of it. Since the publication of our articles, Hon. John W. Farrelly, Chairman of the Committee of Patents, in the House of Representatives, at Washington, has made a report against extending the patent of Jethro Wood. In this we find a few facts before unknown to us, which we will state for the benefit of our readers.

Richard B. Chenaworth, of Baltimore, Md., in 1813, made the cast-iron plow complete in three distinct parts, viz: mould board, land side, and share, and then introduced them into use in many parts of Maryland and Virginia. We presume it was his plow, of which we speak, at page 122, of our last number, as having been in use in Virginia, as early as 1814, five years before Wood took out his patent for the cast-iron share. It is said that he (Wood) knew of this plow before getting out his patent.

Richard Nicholas Harrison, obtained a patent on the 19th of December, 1818, for a cast-iron plow in three distinct parts, the same as Chenaworth's above.

Wood's patent, in 1814, was, as we understand, merely for *elongating* the cast-iron share of the old "Bull Plow," which had been in use in this country for many years prior to his touching it. In his specification he says, he "claims for casting the

* Wood and his heirs, have already enjoyed the benefit of this patent twenty-eight years; namely, from 1819 to 1847, during which time they collected thousands of dollars from the manufacturers, for the privilege of making plows with cast-iron shares.

plow share with a point longer, and more gradual in its rise, than that in common use," &c. In the specification of his patent of 1819, he had grown bolder and more exacting, and then had the assurance to claim, as an *original invention*, "the making, or constructing of a narrow, light, removable cutting-edge, or share of cast iron, by casting the same in mould, instead of the old-fashioned, large, heavy plow share, wrought and steeled, or otherwise fabricated."

What assurance! To claim as a new invention, what had been known and in common use in Great Britain, thirty-five years before the date of this patent, and in this country, upwards of twenty years!

Mr. Farrelly's excellent report completely refutes Jethro Wood's claim as the original inventor of the cast-iron share, as well as everything else of any importance, specified and claimed in his patent. We earnestly entreat our cotemporaries to obtain this report, and also to look over what we have said on this subject, and then make use of the facts for the benefit of their readers. They will find them in the various British Encyclopædias, in Allen Ransom's work on the Implements of Agriculture, recently published in London, and also in various other British works on agriculture and implements. We do not ask them to give us any credit in this matter, but to look into the above publications themselves, and set forth the facts in a strong light in their own way. We think the agricultural periodical will fail in its duty to its readers, that does not immediately publish the facts of this case.

CULTIVATION OF ONIONS.—No. 2.

THE most famous place in the United States for the culture of onions, is Weathersfield, on the Connecticut River. Here large tracts have been devoted to the production of this root for upwards of a century, and with many families it is still their sole occupation. The soil here, is peculiarly well adapted to its growth, being a rich, dry, gravelly or sandy loam. In the month of June last, we visited Weathersfield, for the express purpose of learning the best method of onion culture, which we here give in full, together with such suggestions as we think will be beneficial to the growers of this crop.

Preparation of the Land.—As long manure is full of seeds, and is somewhat in the way of good after culture, well rotted barn-yard manure is usually resorted to as a fertilizer. This is spread broadcast upon the land, and plowed in, from three to six inches deep, according to the nature of the soil. It is a settled maxim not to turn up deeper than the rich top soil penetrates. The onion being a shallow growing root, deep plowing is not requisite. In our own experience in raising onions, we found hog manure the best fertilizer we ever used. Guano was not then known among us; but we think it would be admirable for this purpose, as it contains nearly all the elements that onions want for their growth, and it is perfectly free from the seeds of weeds. It should be harrowed, and not plowed in, as early in the spring as possible, and immediately after plowing.

After harrowing, the ground is raked thoroughly with a fine iron-toothed rake till every clod is finely

pulverized. This, we think, could be done much more rapidly with a field roller, and a fine-set horse harrow.

At Weathersfield, they use from 8 to 10 lbs. of seed per acre, which is sown by hand, in drills, from 12 to 14 inches apart. Seed sowers would doubtless do the work cheaper, and more rapidly. They begin to sow as early in the spring as the ground can be prepared; say, from the last of March to the middle of April. As soon as the plants are up, the weeding is commenced, and in the course of the season they receive from four to six hoeings, and more, if necessary, to keep down the weeds. The hand cultivator would be an excellent substitute for this operation, as a single person could do more with it, in stirring the earth and cutting up the weeds, than four men could do with hoes.

Harvesting, &c.—In wet seasons, and sometimes from late sowings, onions are liable to grow thick-necked. In such cases, they should be gently bent down with the head of a wooden rake, which will check their rapid growth, and cause them sooner to come to maturity.

By the latter end of July, or early in August, the onions, in general, will have arrived at their full growth, which may be known by the shrinking of their stalks, or leaves. At this period of their growth, the harvesting is commenced and continued until October. They are then pulled up in dry weather, spread on a clean, firm plot of ground, and occasionally turned, in order to dry and harden by the sun. They are then cleared from rubbish and removed to a place of shelter, after which they are plaited into ropes, with straw, weighing 3½ lbs. each.

The yield, at Weathersfield, is from 6,000 to 10,000 ropes per acre, which is equivalent to from 400 to 600 bushels, according to the size of the bulbs. For the last four years, onions, in the New York markets, have been quite cheap, the average wholesale price having been but about \$2 per hundred ropes, delivered at the wharves.

The following calculations are based on the statement of the most experienced cultivators of the onion in Connecticut, and may be relied upon as correct:—

Cost of manuring one acre,	\$20
Plowing and harrowing,	4
10 lbs. of seed,	5
Sowing,	1
Raking and making drills,	4
Hoeing and weeding,	24
Harvesting,	10
Carting from field to barn, for roping,	5	
Roping \$14 to \$18—say,	16
Carting to vessel,	5
		\$94

If the crop were 6,000 ropes, at the average price of \$2 per hundred ropes, it would amount to \$120. If the yield were 10,000 ropes, it would amount to \$200; making the profit per acre, of the former \$26, and the latter \$106.

We were shown a large field in Weathersfield, where onions had been grown every year, without any other intermediate crop, for upwards of a century, with no apparent diminution in the yield. This

is certainly very extraordinary. But we hold to the doctrine that if the proper elements are returned to the land, after harvest, the same crop may be grown year after year for an indefinite time. As to land becoming sick, or tired of crops, or that the excretion from the roots of plants is poisonous to the land, we have very little faith.

A FACT USEFUL TO BE KNOWN IN REGARD TO THE POTATO.

THOSE who are in the habit of cutting their potatoes to plant, may not generally be aware that the sets, or eyes, near the end opposite to the root *a*, fig. 33, will come to maturity a fortnight earlier than those at the root end *d*. Yet, this is stated, on good authority, to be true, and these two classes of sets, when planted, will produce an earlier and a later crop. From the same authority,

FIG. 33. it is inferred that the sets from the middle, *b*, *c*, will mature at a period intermediate to the two.

Therefore, it is recommended, that those who cut their potatoes, should separate the sets into three parcels, and plant them in distinct ground, in order that the crop may not be unequal in its time of maturity.

THE COW—HER DISEASES AND MANAGEMENT.—No. 1.

EVERY domestic animal, like the cow, is to be regarded as by no means living in a state of nature. Like her mistress, she partakes of civilized life, and, of course, is subject to similar infirmities with the human race. The period she is with young, with her, is a state of indisposition, and every manager of cattle should bear this in mind, and treat her, during this time, with every attention and care. Her actual diseases are not, indeed, numerous, but they are frequently very severe, always having a tendency to premature birth in her offspring, and sometimes causing death to herself. Therefore, every precaution should be employed to prevent accidents of this kind, and the utmost attention paid to her diet, exercise, and in affording her wholesome air.

The diet of the cow, during the early stages of pregnancy, may not vary from the ordinary course; but at the end of three months, a portion of her food should be of a mild, emollient, and relaxing nature, such as potatoes, turnips, cabbages, the leaves and stalks of green corn, or any other vegetables which have a similar effect. The great point to be aimed at, is to keep her bowels regularly open, which, if not effected by her food, may be done by occasionally giving her the following dose:

Epsom salts, $\frac{1}{2}$ of a lb.; salt petre (nitre), $1\frac{1}{2}$ oz.; cream tartar, $\frac{1}{2}$ oz.; anise seed, $\frac{1}{2}$ oz.; coriander seed, $\frac{1}{2}$ oz.; fenugreek, $\frac{1}{2}$ oz.

This medicine should be well mixed together and given to the cow in two quarts of whey, or water gruel, with a pint of ale, or beer, and half a pint of molasses. Should not this open the body sufficiently, in 24 hours, it may be repeated. In the course of the operation, she may be supplied every few hours with drafts of warm water, or thin

gruel. Should the cow be in a fat, or high condition, and show symptoms of fever, it will be proper to bleed her before the medicine is given; but if she be low in flesh, and impoverished in blood, bleeding should be dispensed with.

Air and exercise are absolutely necessary to the cow, as well as to other animals, and indeed, they are of such importance to her, that she cannot continue long, in a perfect state of health, without fully enjoying them. They wonderfully assist nature in its operations, by promoting the necessary secretions and evacuations, which are always useful to the preservation of health. Precaution should be observed, however, with cows highly fed, as the warmth of their food, with exercise, promotes perspiration, and shortly afterwards, if they are suffered to remain in the open air, exposed to raw, chilly winds, or if they are allowed to drink as much cold water as their inclinations sometimes crave, their whole system will often immediately be chilled, from which cause a violent cold is liable to ensue.

The most predominant symptoms of the latter complaint, are, a violent shivering or shaking of the extremities; the hair stands erect; and a sudden loss, or deficiency, of milk takes place, with want of appetite, followed by a purging, which soon stops. Shortly after, the animal generally becomes very costive; her ears, horns, and extremities are cold; her pulse feeble; and she will appear low and languid, having but little inclination to move or stir; but as the disease advances, if not checked, her pulse will beat quick and strong; her body will become hot; her mouth frothy and clammy, attended with thirst; and a heaving, or quick motion, will be perceived in her flanks. If her lungs are affected, a cough is often the consequence.

In the early stage of the cold, if the cow be in good condition, from one to two quarts of blood may be taken from her; but if she is low, and lean in flesh, from a pint to a quart will be sufficient. Should the disease be far advanced, attended by a strong quick pulse, double the quantity of blood may be taken. After bleeding the cow, give a dose of the following medicine (milk warm), mixed in two quarts of water gruel, to which has been added half a pint of molasses and a pint of warm beer, or ale:

Epsom salts, $\frac{1}{2}$ of a lb.; salt petre (nitre), $1\frac{1}{2}$ oz.; cream tartar, $\frac{1}{2}$ oz.; salt of tartar, $\frac{1}{2}$ oz.; powdered ginger, $\frac{1}{2}$ oz.

This medicine acts as a gentle stimulus, and causes the bowels to relax, which is highly necessary, in order to prevent costiveness and fever; or if fever has already taken place, it will be the means of stopping its progress. The diet of the cow should consist of very thin, warm water gruel, and a mash made of malt and bran. In six or eight hours after taking the last-named dose, the following powders may be given, twice a day, mixed in a quart of water gruel and a pint of ale, until the disease is removed:

Saltpetre, 3 drachms; salt of tartar, $\frac{1}{2}$ oz.; powdered valerian, $\frac{1}{2}$ oz.; anise seed, $\frac{1}{2}$ oz.; powdered liquorice, $\frac{1}{2}$ oz.; pounded juniper berries, $\frac{1}{2}$ oz.; powdered tumeric, $\frac{1}{2}$ oz.; mustard seed, $\frac{1}{2}$ oz.; powdered camphor, $1\frac{1}{2}$ drachms.



AGRICULTURE OF THE CHINESE.—No. 5.

Modes of Manuring Land.—In the island of Chusan, and over all the rice country of Chekiang and Keangsoo, there are two plants cultivated in the winter months, almost exclusively for manure; the one is a species of coronilla; the other is trefoil, or clover. Large ridges, not unlike those on which gardeners grow celery, are thrown up on the wet rice fields in the autumn, and the seeds of the plants are sown in patches at five inches apart, on the surface of the ridges. In a few days germination commences, and long before the winter is past the tops of the ridges are covered with luxuriant herbage. This goes on growing until April, when it is necessary to prepare the ground for the rice. The ridges are then levelled, and the manure plants are scattered in a fresh state over the surface of the ground. The fields are flooded, and the plow and harrow are employed to turn up and pulverize the soil. The manure, thus scattered over the ground and half buried amongst mud and water, begins to decay immediately, and gives out a most disagreeable putrid smell. This mode of manuring is generally adopted in all the rice lands in this part of China, and the young paddy doubtless derives strong nourishment from the ammonia given out in the decomposition of this fresh manure.

Fire wood is so scarce in the country that a great portion of the straw, cotton stalks, and grass, which would go to manure the fields, is used for firing, and therefore, the plan of growing manure for the land is forced upon the farmers by necessity. The plan of using manure in a fresh state, instead of allowing it first to decay, has doubtless been found from long experience to be the best for the young paddy. The Chinese farmer is not a chemist; he knows little or nothing of vegetable physiology, but his forefathers have hit accidentally upon certain systems which are found in practice to succeed, and to these he himself adheres, and hands them down unchanged to his children.

When the first crop of rice is cut, the second, which has been planted in the alternate rows, is left to grow and ripen in the autumn; the ground is stirred up, and the stubble and part of the straw of the first crop is immediately worked up with the mud and water between the rows; this decays in the same manner as the trefoil in spring, and affords manure to the second crop. Prawns and fish of various kinds are frequently used for the same purpose and in the same way.

Burnt earth, mixed with decomposed vegetable matter, is another highly-esteemed manure, and is common in all the agricultural districts. During the summer months, all sorts of vegetable rubbish are collected in heaps by the road sides, and mixed with straw, grass, parings of turf, &c., which are set on fire and burnt slowly for several days, until all the rank vegetable matter is decomposed, and the whole reduced to a rich black earth. It is then turned over several times, when it presents the appearance of vegetable mould. This manure is not scattered over the land, but reserved for covering the seeds, and is applied in the following manner:—When the seed time arrives, one man makes the holes, another follows and drops in the seeds, and a third puts a handful of this black earth on the top of them.

Being principally vegetable matter, it keeps the seeds loose and moist during the period of germination, and afterwards affords them nourishment. This manure is useful, mechanically as well as chemically, in a stiff soil, like that of the low lands of China, where the seeds are apt to be injured in the process of germination. The young crop thus planted acquires a vigor in its first growth, which enables it to assimilate the matter that forms the strong stiff soil, and to strike its roots firmly into it.

What is commonly known by the name of oil cake, with us, is broken up and used in the same manner as the vegetable earth, and is also scattered broadcast over the land. The oil cake is the remains or refuse of the seeds of several different plants, such as the tallow tree, cabbage (*Brassica chinensis*), and various kinds of beans. There is a great demand for this manure in all parts of the country, and it forms a very considerable branch of trade, both by land and sea. Bones, shells, old lime, soot, ashes, and all kinds of rubbish, are also eagerly bought up by the farmer for the purpose of manure.

In the Fatee gardens, near Canton, the proprietors have a curious kind of rich mud, which they cut up into small square bits, and sell at a very high price for the growing of plants in pots. This is obtained chiefly from the ponds and lakes in the vicinity where the favorite water lily, or lotus, grows.

Application of Night Soil.—For crops in a vigorous growing state, no kind of manure is so eagerly sought after as night soil, and every traveller in China has remarked the large cisterns, or earthen tubs, which are placed in the most conspicuous and convenient situations for the reception of this kind of manure. What would be considered an intolerable nuisance in every civilized country on the globe, is here looked upon by all classes, rich and poor, with the utmost complacency; and I am convinced that nothing would astonish a Chinaman more, than hearing any one complain of the stench which is continually rising from these manure tanks. Almost every Chinese town is placed on the banks of a river or canal, and the water is generally led, not only round the walls, thus forming a kind of moat, but also through many parts of the city. Long clumsy boats are placed in different departments of the town, into which the night soil and urine are emptied and conveyed from thence into the country. The fields in the neighborhood of cities are generally supplied with it by coolies, who go every morning to market loaded with the produce of their farms. Each brings home two buckets of this manure, slung at the ends of his bamboo pole. It is generally supposed that the Chinese carry the night soil and urine to these tanks, and leave it there to undergo fermentation, before they apply it to the land. This, however, is not the case. In the fertile agricultural districts in the north, I have observed that the greater part of this stimulant is used in a fresh state, being of course sufficiently diluted with water before it is applied to the crops. And there can be little doubt that in this, the Chinese are perfectly right, as the manure must be much more efficient in this state than when a great portion of its ammonia has passed off into the air. The Chinese, as far as I could learn, have no mode

of disinfecting their manure, but they seem to be perfectly aware, that if allowed free access to the air a great loss must result, owing to the gases which are given out and dissipated. Without waiting, then, for fermentation or putrefaction, this manure is at once applied to the growing crops. On the afternoons, or on cloudy days, the laborers are seen carrying water from the nearest pond or canal to the manure tank, for the purpose of diluting its contents. This being done, they fill their buckets, attaching one to each end of their bamboos in the usual way, and carry them off to their destination. When this is reached, each man takes a small wooden ladle having a long bamboo handle, and with this he scatters the liquor over the growing crop. A strong stimulant like this would probably in other circumstances have an injurious effect; but, by using it only when the crops are young and luxuriant, they assimilate its gases, and a most marked effect is produced upon their growth and productiveness. This kind of liquid manure is generally applied to wheat, barley, and all the cabbage tribe, and other garden vegetables; but not to rice, which is always flooded during its growth.

This manure is sometimes used after putrefaction and fermentation have taken place, and even in this state is very efficient. In the gardens near Canton it is often dried and mixed with the soil taken from the bottom of the lotus ponds, and used for growing plants in pots, or for enriching any particular tree which may be a favorite in the garden.

Although the land is sometimes allowed to lie idle for some months, yet there is no regular system of fallowing, nor is the rotation of crops much known or practised. Indeed, as regards the low lands, the soil being a kind of stiff, strong clay, capable of yielding many crops of rice in succession, without being in any way burthened or impoverished, no such mode of cultivation is necessary.

IMPROVED AGRICULTURAL IMPLEMENTS.

HAVING occasion to visit the capacious establishment of Messrs. A. B. Allen & Co., 191 Water street, we could not but be struck with the variety and excellence of the implements for every possible purpose on a farm—from the cotton gin down to the apple parer—from the gigantic horse rake to the hoe no bigger than a dollar. Think of a hundred varieties of plows! Shade of Triptolemus! all that is lacking is the *original plow* to place side by side with these shapely, painted, and varnished clod compellers, in which real grace and beauty are made tributary to usefulness. Then there are the offspring of the plow—children, grand children, and great grand children; the cunning “cultivator,” and slicers and scrapers of every degree, all potent to destroy the upstart family of weeds, though proverbially reluctant—like other *parvenus*—to “stay put.” There are pitchforks, so tempered that a loaded wagon may roll over their tines without injury, and twanging under a slight blow like the pitch-pipe with which the country chorister sets “Wells,” or “Hebron.” There is the sausage cutter, with which the good wife, turning a crank while she rocks the cradle, can mince more pork in an hour

than could be done in a day by the old method; and the hand mill, which grinds hommony for breakfast while the fire is making. But a descriptive catalogue of all the ingenious and useful and really beautiful things that attracted our attention in the course of a hurried stroll through the various floors of this establishment, is quite out of question. We mention it for the sake of the numerous visitors from the country who are in town at this season, and who will of course wish to ascertain what science has been doing for the farmer since their last visit to this mart of all inventions. If our city readers should fancy that our theme lacks dignity, we have only to recall to their recollection Bryant's beautiful

AGRICULTURAL ODE.

*Far back in the ages
The plow with wreaths was crown'd ;
The hand of kings and sages
Entwin'd the chaplet round ;
Till men of spoil
Disdain'd the toil
By which the world was nourish'd,
And blood and pillage were the soil
In which their laurels flourish'd.
Now the world her fault repairs,
The guilt that stains her story ;
And weeps her crimes amid the cares
That formed her earliest glory*

*The proud throne shall crumble,
The diadem shall wane,
The tribes of earth shall humble
The pride of those who reign ;
And war shall lay
His pomp away ;
The fame that heroes cherisht,
The glory earned in deadly fray,
Shall fade, decay, and perish.
Honor waits o'er all the earth,
Through endless generations,
The art that calls the harvest forth,
And feeds the expectant nations.*

The approach of spring, with all its rich promise—the Mexican war, with “the guilt that stains its story,” and the laurels that make us almost forget the guilt—and the dreadful accounts of famine in foreign lands—give a peculiar significance and pertinency to this fine poem at the present moment. May it be the glorious privilege of our farmers to “feed the expectant nations!”—*Christian Enquirer.*

The above was written nearly a year since, and we presume is from the pen of Mrs. C. M. Kirkland, the accomplished authoress of “A New Home,” under the assumed name of “Mrs. Clavers,” a work without exception, the drollest, the raciest, and most original that ever flowed from the pen of an American lady. It also abounds with a high moral.

A FEATHERED CHIMNEY SWEEP.—An old-fashioned mode of sweeping chimneys was to tie together the legs of a goose, pull her up and down the flue by a string, and cause her to dislodge the soot by the flapping of her wings. This may seem cruel to the humane; but, which is the most barbarous, the sending of a goose down a chimney or a child up it?

GUANO FOR GRASS LANDS.—Grass lands may be greatly improved by sowing broadcast, about 300 pounds of Peruvian guano per acre, in wet weather about the first of May.

HOW SHALL THE SOIL BE IMPROVED?

In considering the important question, how shall the deterioration of the soil be most readily prevented and its fertility increased, I have been not a little perplexed with the different views entertained, and the different directions given by the savans [?] in agricultural science.

For instance, a few years ago, great value was attributed to *nitrogen*, as it exists in manure. Liebig, in his "Organic Chemistry," asserts that there are "numerous facts, showing, that the formation in plants of substances containing nitrogen, such as gluten, takes place in proportion to the quantity of this element which is conveyed to their roots in the state of ammonia, derived from the putrefaction of animal matter." And again, speaking of the great importance of the nitrogenous principle in manure, the same author says—"Animal manure acts *only* by the formation of ammonia."

To prove this, he cites an instance where a soil manured with cow dung, which contains but a small quantity of nitrogen, produced wheat of which one hundred parts afforded only 11.95 parts of gluten, and 64.34 parts of starch; whilst the same quantity of wheat grown on a soil manured with human urine, which contains a large proportion of nitrogen, yielded 35.1 per cent. of gluten.

Liebig, however, held that ammonia was not only evolved by animal bodies, but that it also "existed before the creation of human beings, as a part, a primary constituent, of the globe itself." He detected the substance in rain water and snow water, and thence deduced that it was brought to the earth by the descent of vapor in those forms. He believed that charcoal, decaying wood, *humus*, or vegetable mould, possessed the property of attracting or absorbing the ammonia of the atmosphere, and that by the application of these matters to the soil, they became a means of supplying plants with their necessary nitrogen. Charcoal, he stated, was capable of absorbing "ninety times its volume of ammoniacal gas, and decayed oak wood seventy-two times its volume."

These views became very extensively disseminated and adopted. Their announcement in this country, together with other theories of the great German chemist, created no little excitement, and some were very enthusiastic in their advocacy of the new doctrine. To secure ammonia and render it subservient to the uses of plants, seemed to be the great idea and object. Various were the "traps" devised for taking and holding this volatile substance. The papers teemed with directions for making "steeps" of ammonia and nitre for seeds, &c. One individual, somewhat distinguished, of late years for his zeal in the cause of agricultural improvement, and who, to use his own language, had, as "a practical agriculturist, devoted the best energies of his mind for years to the study of agricultural chemistry, vegetable and animal physiology," strongly recommended common charcoal as "the cheapest and therefore the best material to apply to cultivated fields" for the purpose of fixing ammonia. He stated that "the liberal application of this well-known substance (charcoal) to the wheat fields of France, had mainly, in connexion with lime, added within the last ten years (from 1833 to 1843), 100,000,000 bushels to the annual

crop of wheat grown in that kingdom." He proceeded to say, in the same connexion, that he considered the subject "of vast practical importance;" and adds, "by studying the science of agriculture, you may grow fifty bushels of good wheat on *any* acre of your land, * * * saving, of course, extreme casualties." It is evident that a knowledge of the use of charcoal, or of its application for the purpose above described, was considered an important part of the "science of agriculture," from which such "vast" benefits were expected.

But within the lapse of only a few years, men, or their theories, have greatly changed. Liebig now holds that the ammonia of manures is of no "moment"—that plants derive an abundant supply of that element, as he supposes they do of carbon also, from the atmosphere! He holds that the *organic* part of manures, including the ammonia, is not necessary in supplying food to plants—that vegetable matters only operate *mechanically* on the soil. In accordance with the basis of this theory, it has been argued that we might as well burn manures and apply the *ashes only* to crops!

In the London "Farmers' Magazine," for December last, there is a translation of part of a letter which was addressed by Liebig to the editor of the "Revue Scientifique et Industrielle," in which he (Liebig) states that he had formerly regarded "azote as not only useful but also necessary," but that the results of experiments and observation have induced him to alter his opinion. In reference to his present views he says—"It has been demonstrated that ammonia is a constituent part of the atmosphere, and that as such, it is directly accessible and absorbable by all plants. If, then, the other constituents necessary to the growth of plants be satisfied—if the soil be suitable, if it contain a sufficient quantity of alkalies, phosphates, and sulphates, nothing will be wanting; *the plants will derive their ammonia from the atmosphere, as they do carbonic acid.* We know that they are endowed with the power of assimilating these two elements; and I really cannot see why we should search for them in the manures we use."

This theory seems to have obtained considerable credence in this country, and singular as it may seem, some of its most strenuous advocates are among those who but a short time since attributed such wonderful virtues to ammonia. But with them, charcoal and ammonia have had their day, and are no longer reckoned among the things needful to sustain the fertility of the soil. (a) Even the individual from whose remarks in recommendation of charcoal an extract is given above, has lately declared, in an article on the "Theory of Agriculture," that if the farmer will only "restore all the *earthy* part of each harvest to the field whence it was taken, he may grow any crop, year after year, * * * without injury to the soil!"

This announcement would naturally be received with some surprise by farmers who had been accustomed to the ordinary course of manuring; but when it is known to proceed from one who only a short time since was so earnest in the recommendation of charcoal and ammonia, it appears startling!

I have nothing to say in regard to the opposite character and inconsistency of the theories above-mentioned; but in regard to sustaining or restoring

fertility by the application of inorganic manures (ashes) only, I wish to inquire whether the plan has been practically demonstrated? Since the theory was first broached, several seasons have passed, during which, it might have been brought to the test of experiment. But, do we hear of soils, *totally destitute* of organic matter, having been brought to fertility by the application of the *ashes* of manure, or inorganic substances only? "Liebig's manure," as it is called, for the sale of which companies were formed in Europe, appears to have been constituted on the principle of this theory. How has it operated? I have not learned the results of its use in many cases; but in the "Farmers' Magazine," for April, 1847, there is an account of some experiments with this manure, by Dr. Weissenborn, which indicated nothing in its favor. In the number of the same work, for December last, there is an essay by Thos. L. Colbeck, on "Farm-yard Manure," in which I notice the following remark:—"I am rather sorry to say, that Liebig's manure has not as yet answered all the expectations which were formed upon the announcement and sanctioning by a name we all respect so much." (b)

But it is thought that our western prairies furnish an example in proof of the soundness of the theory that none but inorganic manures are needful. Previous to the occupancy of the section referred to, by the white settlers, the prairies were annually burned over by the Indians, and yet the annual growth of vegetation was not, in most cases, diminished. This is the fact referred to as evidence that organic manures are unnecessary to fertility, and that it is only requisite to return the "ashes" of plants to the soil. Is this, however, a case in point? The soil of the prairies is known to contain, in many instances, organic matter to a great depth. Those portions which are the most permanently productive are remarkable for the large proportion of vegetable matter properly mixed with mineral elements, and to this mixture is generally (and no doubt correctly) attributed their great fertility. No inference, therefore, in favor of the position alluded to, can be drawn from this case. To make out a fair argument, a soil should be taken, which contains no organic matter, and it should be rendered fertile and productive by inorganic manures alone.

Before the recollection of all "old things" shall have "passed away," I wish to call attention to one point. Liebig, in his "Organic Chemistry," states that carbonic acid, water, and ammonia, contain the elements necessary for the support of animals and vegetables. "And in regard to the usefulness and importance of *humus*, or vegetable matter, in a state of decay, he says—"It is not only a slow and constant source of carbonic acid, but is also a means by which the necessary nitrogen is conveyed to plants." Now, to say nothing in regard to the first of these propositions, I wish to inquire what evidence is there, if any can be brought, to show that the latter proposition is unsound? It is not enough, merely, that Liebig himself repudiates it—the facts are wanted.

P.

Albany, Feb. 9th, 1848.

(a) It is to be understood that our correspondent by no means underrates the value of charcoal and

ammonia as fertilizers of the soil; for it is well known that these substances, either used by themselves, or in combination with other materials, are requisite in growing most, if not all, of our cultivated plants.

(b) By referring to Mr. Main's "Report on the Immediate Effects of Special Manures on Crops of 1847," as published in January last, in the Journal of Agriculture and the Transactions of the Highland and Agricultural Society of Scotland, it will be seen that Liebig's "Patent Manure" proved itself useful as a top-dressing for wheat and oats; but its real value, with one or two exceptions, resulted in a loss, from the expense attending its purchase and application.

INDUCEMENTS FOR IMMIGRANTS ON JAMES RIVER.

NOTWITHSTANDING the number of immigrants from the north, who have located themselves in various parts of Virginia, and the many who have recently visited the tide-water region of James River, few or none of them have, as yet, become purchasers or settlers; yet a more beautiful and a more healthful country I have never seen. Nature has here been prodigal of her favors, in affording a good natural soil, an abundance of marl, and excellent water. That noble river offers ample facilities to markets, for the sale of produce of every description, and to the immigrant, it presents many inducements. Lands can here be bought *cheap*, and of the best quality. It is true, much of the land has been worn out, or exhausted, by improvident and injudicious cropping—everything taken off, and nothing returned; but there are many noble exceptions to this unfavorable state of things. Take, for instance, the Brandon, Coggins' Point, Shirley, Westover, Weyanoke, and other estates. These farms, I believe, have been, at a comparatively recent date, as unproductive as much of the impoverished lands in their several neighborhoods; and I hazard nothing in stating, that almost every acre of land on the margin of the river could easily and cheaply be made to yield an equal or a larger return of crops than these farms are now doing.

On the estate, which I now occupy, seven or eight years ago, six bushels of wheat, and from ten to twelve bushels of corn, would have been considered a high average crop per acre; but last year 540 acres yielded an average crop of $23\frac{1}{2}$ bushels per acre, of wheat, and 520 acres of corn produced an average of not less than 38 bushels per acre. These returns present a handsome and encouraging increase, which has been brought about with comparatively little outlay, under a five-course rotation of crops; that is, corn, wheat, clover, wheat and clover, with the use of lime, gypsum, and the careful accumulation and application of manures made on the estate; and under an improved system of farming, there is no doubt but these returns might be doubled.

Your correspondent, "A New-Yorker," I hope, will be able to extend his observations, and present your readers with his views of the capacities of this delightful region, and the inducements therein offered to immigrants. As above indicated, I consider this a healthy region of country, as a resi-

dence in it, of nearly fourteen years, enables me to say so confidently. I moved here with my family, almost directly from Scotland, and together with my children, have enjoyed an almost uninterrupted continuance of good health, up to this time.

I have heard several gentlemen from the northern states, who have visited this part of Virginia, express fears, that the *working farmer and mechanic*, together with their wives and daughters, would be considered as holding a lower position in society than they had been accustomed in their own states, and be so treated by the native Virginians; but from my personal observation and experience, these fears do the *ladies and gentlemen* of the Old Dominion injustice; for the industrious, intelligent, and respectable working farmer or mechanic, is sure to meet with a cordial and hearty welcome from every Virginian whose favorable opinion is worth having.

A. NICOL.

Sandy Point, Charles City, Va., March 7th, 1848.

SOUTHERN AGRICULTURE.

"*Letters from the South*"—No. 12.—I admit that correcting our friend, R. L. A., is, as a general rule, showing up one's self; but as I think I can do it once, I beg to have that pleasure. Were he such a small writer as we country folks, I should not dare, but I lose nothing, and may gain.

On page 337 Mr. A. says—"With the best plows, a planting machine, cultivators, and harrows, one person can easily plant, cultivate, and harvest 15 or 20 acres of corn with four months' labor, that will produce an average of 40 bushels per acre." Nothing but frost will prevent a good crop.

I assure you, sir, I have seen a field that was believed to contain 360 acres, cultivated in corn by nine hands, one of them with one arm only. I saw another place cultivated at the same rate; and it is highly probable neither of the owners ever saw one of the above implements. I have cultivated on this farm 10 acres of corn, and as many of cotton, which induces me to believe that I can cultivate 30 or 40 acres in corn, just double what Mr. A. speaks of. Within three miles of my seat, I can find 200 to 300 acres of cleared land in one field, that will average 40 bushels, thus giving me 1,200 to 1,600 bushels per hand, instead of 600 to 800. I can produce as good proof as can be required, that my brother, A. K. Montgomery, did make this year an average of 60 bushels from his entire crop; our father, Mr. M., did make an average of near that; and that they planted over 150 acres in corn. I have seen in Louisiana 1,000 acres in one body, that I sincerely believe would average over 60 bushels. I have seen a crop in Concordia of full 100 acres, that averaged 80 bushels. And yet, with all these lights accessible to any Philadelphia doctor, we are *forced to believe*, by said doctor, that the south is not adapted to corn. We do not need the best plows &c., &c., to make these large crops—the soil is the thing. The poor lands in your latitude, will no more give 50 to 150 bushels than will the pine lands of Rankin county, Miss., or the sand hills of the Richland district, in Carolina. And acre for acre of similar lands, similar culture, similar manures, we can make as much as you can. This is irrelevant to the present subject, but I will let a shaft fly at that Philadel-

phia doctor whenever I can. Let him stick to his pills, and not write of us whom he never saw. I allude to the compiler of the *Farmer's Encyclopedia*, published at Philadelphia in 1844. See article "Climate," page 336.

Now as to frost injuring corn. We can plant corn here in January, February, March, April, May, June, and July; and if it once vegetates, and has two blades, the frost will not injure the yield materially. I have planted in February, and had the same corn cut down two or three times by frost; it made as good a crop as that planted later. The only fear is, we cannot calculate on a fine spell of weather in January and February, to get corn up, before it rots in the earth. Corn cut down by frost, does not grow so high, does not make the usual quantity of fodder; but it does generally make more corn, and this is believed by nine planters out of ten, who have followed darkies for 15 years.

The above article was written thus far in November last, and overlooked until this night, January 24th. I will now add, that there is no doubt but that good tools and labor-saving implements, will always enable the planter to do more and better than he can as now practised. And I insist that they can work cheaper too. Allow me to state one little matter, that bears on this. In 1839, I had some hoes made by a country smith out of the worn-out blade of a Philadelphia mill saw; they were rough, it is true, but I cultivated four crops with them. I now buy the best hoes I can find, and have to buy at least half a set every year, at about the same cost. Knowing this, I prevailed on R. L. Allen to have steel hoes made, of size and weight to please our workies. He says they are good stuff. I saw them, and believe they are cheaper at \$1.50 each, than iron hoes are at nothing. Another implement of value, a drawing knife, I also urged R. L. Allen to have made, that could be recommended to planters. He has done so. And my reason for it was, I usually keep four for home use. For one of them I was offered \$2, and dared to take even \$4. by a laborer—a white man. I asked him why he offered so much? He said he had never seen but one that was equal to it, and that one was held by a laborer who refused \$5 for it. I have not seen half a dozen real prime drawing knives in my lifetime, and though I have bought and thrown away a dozen, I have never owned but two good ones. I speak of these, to show the advantage of good tools. Many of your readers will laugh at the idea of a planter expatiating on these little things, but they should remember that the world is made up of little things.

M. W. PHILIPS.
Edwards, Miss., January 24th, 1848.

MR. ALLEN'S REPLY TO DR. PHILIPS.

I WAS gratified to notice the candid criticism of Dr. Philips, on the article of corn as human food. The examples he gives of the great productiveness of this grain are important data for determining its value in this section of the country as a crop. His examples, however, do not surprise me, but rather confirm the impression entertained on the subject at the time I wrote; and in corroboration of those given, I will add that of Col. Wade Hampton, on his Lake Washington plantations, 200 miles above

Vicksburg. He assured me that he raised on them 25,000 bushels of corn the last season (besides his cotton, which is his principal crop), and much of it at the rate of 80 bushels per acre. This, however, was done with best cast-iron Eagle plows, the "A 3," for breaking up, and the "A 2," for cultivating.

In assuming the position I did, that one man's labor for four months would yield 800 bushels of harvested corn, I meant to be entirely within bounds, and not subject myself to the charge of overstating the productive industry of the southwest. The excess of production beyond what is stated, so far from impeaching, serves but to confirm the statement. The examples quoted by Dr. P., however, as well as that of Col. H., may be considered as extremes rather than the mean of production, even in the Mississippi Valley. They are furnished by the cultivation of comparatively new and uniformly fertile land, with a judicious application of labor and favorable seasons. The best lands, unless subject to the annual overflow of muddy streams, would not long sustain such crops; while a vast proportion of this valley, cannot in its ordinary state, be made to produce so much. Such lands must be manured, and the most fertile also, when partially worn. To provide and apply this manure, whether from the yards or muck heaps, or by green crops, will demand no inconsiderable amount of labor; and with the occasional replanting from casualties to seed, short crops, owing to a variety of causes, &c., &c., will, in my judgment, leave but a small average excess over 800 bushels of sound shell corn for four months' labor.

As to the injury from frost upon young corn, my experience, in a northern latitude, has been, that although it generally affected the blades above the surface only, yet it occasionally killed the germ; and even when the vital part was not affected, repeated attacks frequently checked the growth, and seriously diminished the quantity of grain, as well as the stalk and leaf.

R. L. ALLEN.

New Orleans, March 8th, 1848.

THE PEANUT, OR PINDAR, PROPOSED AS A FERTILIZER FOR WORN-OUT SOILS.

In a Spanish work, entitled "Memoria sobre el Mani de los Americanos," by Don Antonio Enchanted, published at Saragossa, in 1800, it is stated that, if a mixture of one part of the flour of peanuts, with six parts of water, be left exposed to the air, on the third day after, an acid, and on the sixth day a putrid, fermentation takes place, attended with the formation of a considerable quantity of ammoniacal salts. Hence it may be inferred, that, if the entire plant be plowed under, a short time before the leaves begin to turn yellow, it will serve as an excellent manure for enriching inferior or worn-out soils.

It would be interesting to know how far north this plant will grow, or mature its seeds in the open air. Those who wish to make the experiment will find minute directions for its cultivation, at p. 346, of our sixth volume, where it is stated that an acre of poor sandy land will yield from 50 to 80 bushels of the nuts, and over a ton of hay, from the tops. The peas, or nuts, can usually be bought in market

for \$1.50 to \$2.00 per bushel. If sown as late as May, or even June, it is probable that they would grow sufficiently, in the course of the season, to afford a green crop for plowing in, or to be mown and cured for hay. In the south of Spain, the time of planting it, is from the middle of May till the end of June; but there the climate is mild and generally without frosts, the coldest months of the year.

REVIEW OF THE JANUARY NUMBER OF THE AGRICULTURIST.

WHEN I closed my review of the volume for 1847, I expected to be able to keep up with your monthly issues; but while in Nova Scotia, during that severe cold weather, about Christmas, I took one of the "worst colds in my life," which has disabled me the balance of the winter. If it were not requisite for me still to preserve my *incog.*, I should like to give you a sketch of "Sam Slick," as well as of the editor of the Maine Farmer, and some others whom I met down east. I forbear; for, in truth, the doctor and all the rest "on 'em is so cute," that they nearly rent my veil while I was in company with them. I therefore, shall proceed at once to notice such articles in the January No. as I think will be most useful.

Agricultural Society Addresses.—I commend this article to all the readers of your journal. It is a lamentable truth, that of all the agricultural addresses that I ever listened to, I never heard one well fitted for the occasion. I am glad to hear that an improvement is taking place. There is room for it. Ditto of reports of agricultural show committees.

The Number of Swine in the United States is here estimated (and too low at that), at twenty millions. And at least, nineteen millions of these are

Swine Running at Large.—What a horrible, hoggish picture of a heathenish people. As I happen to live in that village which you mention (see page 13), I can vouch for the truth of that picture. You say "if any loafer presumes to let his hogs run in the street," &c. I object to this expression as unjust toward that very respectable class of society. I mean comparatively respectable; for a *loafer*, as I understand the term, is a lazy, indolent fellow, whose sins are rather of a negative character; while the swine breeder, who sends his hungry horde into the streets to prey upon his neighbor, is worse than a pilferer, who would come and steal the corn with which to feed his swine in a pen at home; for he would probably shut the gate after him. I object to your plan of impounding, as a corrective of the evil. I saw a much better one copied from some western farming paper last summer [it was the Prairie Farmer. Ed.], as in force in some part of Illinois. It is also well calculated to improve the breed, and much more effectual than your remedy. The cost of the cure is half an ounce of lead, a thimbleful of powder, and one percussion cap!

Canadian Cattle Show.—This number contains a descriptive article from L. F. Allen, of a visit to this show at Hamilton last fall, which is, as his articles generally are, highly interesting. As our show is to be at Buffalo next fall, I hope his visit will be returned by at least a thousand of our Canadian brothers.

It is a most gratifying thing to me that the steady devotion of L. F. A., to the best interest of the farmer, has been honored with the presidency of the New York State Agricultural Society. I hope he will be continued in office until he works some needed reforms.

Ice Houses.—Your remarks upon the construction of this useful appendage to a farm, in the southern portion of our country, are very good. Though instead of a frame, with posts a foot thick, two light frames, one within the other, would be better. Perhaps the "balloon frames" spoken of by Mr. Robinson, would answer a good purpose. I wish, Mr. Editor, that you would publish a cut and description of the old "Virginia ice house." [Will try to do so one of these days].

Hints for the South.—Mr. Abbey disputes Mr. Peacocke's facts, about raising meat; but, unless, I am misinformed upon this subject, Mr. P. is far nearer the mark than Mr. A. As to Mississippi being the "best region in the west for raising beef," Mr. A. must surely be mistaken. Beef cannot well be packed in such a warm climate; and besides, northern beef is always esteemed the best. If Mr. A. has a breed of negroes that will not kill off the pigs, however well fed, they are certainly different from any that I have ever met with in my travels. As to Mississippi being a good fruit country, I fully believe in that; but as to its yet being put to the test, to any important extent, no man who has spent so much of his life there as I have, can credit it, unless, indeed, it has wonderfully altered since I was in the state, five years ago.

Yankee Farming—No. 1.—Well, now, I like originality, and here it is in all its parts—name, place, and style. But unless I am most deucedly mistaken in my "guess," at the author, he will belie his name, or the character of his profession—the great body of them not being noted as very near relatives to the Sergeant family. But never fear, Sergeant, for your ease, I will not divulge while you are engaged in the same cause that I am; but if you will guess shrewdly once, and then ride over to my house some day, you shall meet with a most hearty welcome from a *Corporal* of your old company. In the mean time, I expect to be often delighted by your too-true description of New-England farming. I don't think you can be accused of being personal; for I have already heard you charged with meaning more than twenty different individuals, for "Uncle Sim." The only difficulty in the way, is, that none of these uncles have a neighbor Goodell. But I have suggested to them, that the Major is entirely a fictitious character; but this they are unwilling to believe, "he seems so natural like," and the oxen more so. "Wal! Wal! I guess there is something in feed arter all."

Monographs of Fruit.—Your correspondent need not call upon Hercules to perform this task; for however much the old giant might do with his club, Mr. B. is quite as powerful with his pen, which I am right glad to see is enlisted for the Agriculturist.

Taplin's Horse Power.—There is an error in this engraving, or in the machine itself. Nothing appears to support the wheel upon the side opposite the pinion; but it would rather appear to be suspended by the centre shaft. If that is the fact, it

will soon get to wobbling so as greatly to endanger it or other parts of the machinery. It should run upon four bearings [it does so, but these unluckily are not shown in the cut], and if the segments were put on top, or on the rim of the wheel, it might run within two inches of the ground. The whiffletree could be raised to any desired height by a standard, supported by a back stay.

Dressing Wounds.—Although this article was intended for animals, its advice is equally good for human wounds. Nine times out of ten, a wound will heal quicker, if done up in its own blood, than in any other way. As for a burn, whatever will entirely exclude the air the quickest, is the best. Cotton will do this. So will oiled silk, if stuck down at the edges by any kind of sticking salve. Put nothing on a burn to heal it. Nature will soon do that, when the air is excluded, and the pain will almost immediately cease.

Hints to Mothers.—If that "Farmer's Wife," at Onondaga Hill, doth practice as she preacheth, pray commend me to her as an instructress to my daughters; though thanks to the example of their good mother, I think them pretty useful girls already. If this farmer's wife will continue her contributions to the Agriculturist, she may assist in teaching farmers' daughters how to make housekeeping easy; and I will assure her that her articles shall be touched with a most gentle hand by your

REVIEWER.

INTRODUCTION OF THE COCHIN-CHINA FOWLS.

We are informed, through the Massachusetts Ploughman, that Mr. J. C. Bennett, of Plymouth, Mass., has been pre-eminently successful in rearing this celebrated breed of fowls from a pair, which he imported in July, 1846. One of the cockrels, of last May's brood, weighed $8\frac{3}{4}$ lbs. when ten months old, and a pullet of the same brood and age, weighed $6\frac{5}{8}$ lbs. The latter commenced laying about the first of January last, and on the 19th of February, she hatched out a fine brood of her own. The mother of this pullet laid 84 eggs within the period of 136 days, between the 31st of March, and the 14th of August last.

Mr. Bennett states that these fowls are no more expensive to keep than the common breeds; while they are about twice as large, better layers, less destructive to gardens, more docile, very careful of their young, and their flesh fine and highly flavored. Therefore, he considers them, in all respects, better and more profitable to raise, than any other breed. For a description of this species of fowl see pp. 36, 153, of our sixth volume.

SCARECROWS.—Among the various contrivances employed to frighten crows from newly-planted corn, small pieces of looking glass, or little bits of shining tin, suspended about the field, by pieces of strong twine on short poles, four or five feet above the ground, will prove as effectual, perhaps, as any other means. A line of white twine strung around the field and supported by stakes, will also have a similar effect. The crow, in all old settlements, is too suspicious a bird to approach any such contrivances, for fear of being caught.

LETTERS FROM VIRGINIA.—No. 6.

Farm of Mr. Sherman.—Nine miles from Washington, on the road leading to Fairfax Court House, is the farm of Mr. Sherman, consisting of some two hundred acres, under good cultivation; and the history of this farm is so characteristic of the region round about, that it may serve to illustrate, and in some measure explain, the present state of things in Virginia. Some twenty years since, a clergyman of wealth, talents, and leisure, purchased the entire estate, including nearly a thousand acres, erected a fine substantial brick house, and surrounded it with out-buildings of brick, at an expense of upwards of five thousand dollars; laid out the grounds in the vicinity of the mansion with great beauty and taste, and opened a large boarding school, for the reception of pupils, from Washington and the adjoining cities. At his death, which occurred soon afterwards, a large portion of the estate was disposed of at private sale, by his executors and heirs, and the family mansion, with the surrounding grounds, leased for short terms to a succession of tenants. These tenants having no other interest than that of securing profitable crops, not only speedily exhausted the soil, but suffered the house and buildings to become dilapidated—cut down the ornamental trees and shrubbery, so tastefully arranged by the late possessor—converted the parks and drives into corn and wheat fields, and potato patches, and were actually proceeding to turn the mansion itself into a vast *barn*, occupying the commodious out-houses as dwellings, in order to avoid the necessity of repairs, when the premises were purchased at a very low price by the gentleman, who subsequently sold them to the present owner, for a sum considerably less than the first cost of the house.

On coming into possession, Mr. Sherman found the house nearly destitute of everything, save bare walls; but these being of the most substantial and permanent materials, and in good condition, he soon found means to render it habitable; and being himself a practical farmer, aided by his sons, and by the natural fertility of the soil, speedily succeeded in placing the farm in good condition, and in realizing amply remunerating crops. He surrounded it, the first year, with good post and rail fences, repaired the various out-buildings, pruned and trimmed the fruit trees, restored the shrubbery, as far as practicable, and commenced a systematic course of cropping and husbandry. During the past year, he has erected a large and commodious barn, and surrounded it with all requisite conveniences for cattle and stock—carrying to his barn yard, from an adjacent spring house, by means of leaden pipes, a plentiful and continual supply of water. The barn being situated on the acclivity of a hill, a large stone basement, some ten or twelve feet in height, and forty or fifty in breadth and length, was constructed at a very trifling expense, compared with its utility; and this basement has been subdivided into stables for horses and cows, having free communication with the upper floors by means of the racks on the one hand, and the yard on the other. The great convenience, utility, and economy of a well-constructed and properly-located barn, are so obvious, that many of Mr. Sherman's neighbors, by whom such

a farm appendage has hitherto been regarded as a senseless Yankee innovation, are taking measures for constructing one themselves. The difference in the mere market price of hay wintered in this manner, no less than its greatly-enhanced value for the use of stock, has demonstrated to the most incredulous, the superior advantage of a *good barn*, over the most scientific *hay stack*.

Mr. Sherman has now resided on this farm for three years, during which period its value has more than doubled; and he has several times, to my knowledge, refused twice the amount paid for it. These results have been attained simply by superior cultivation and good farm husbandry, as every one can perceive by comparing the soil with that of the adjacent farms in the neighborhood; and although Mr. Sherman stoutly insists that his land is intrinsically better than that of his neighbors, yet I am well convinced, that if he should to-day purchase and occupy the poorest farm within five miles of his present residence, he would, within a very short period, come to the conclusion, that *his land* was of a superior quality.

Farm of Mr. Hyde.—Nearly opposite Mr. Sherman's, on the west, is "Ingleside," the residence of Charles K. Hyde, Esq., formerly of New Jersey; a well cultivated and valuable farm of two or three hundred acres, with a fine dwelling, pleasantly located in a natural grove of stately forest trees. I cannot help admiring the good taste of these Virginians, in selecting the locations for their dwellings. There is something inexpressibly beautiful in the idea of a rural cottage, surrounded by the luxuriant vegetation of this mild climate, embosomed in shade and shrubbery, and rendered musical by the tuneful choristers of the wood. It is pleasant to withdraw for a few hours, from "the heat and burden of the day," to the cool verandah of such a dwelling and, with book, or friend, to recruit the exhausted physical energies, and leisurely contemplate the surpassing beauty of nature in her holiday attire. Mr. Hyde informs me, that, having purchased an estate near Williamsburg, in this state, he is desirous of disposing of "Ingleside;" and as I presume his terms will not be unreasonable, I commend the opportunity of making a valuable purchase, to such of your northern friends as may feel an inclination to test the beauties of a southern clime. Certainly I know of no more pleasant situation.

Lieut. Muse, of the U. S. Navy, attached to the astronomical observatory, at Washington, has also a fine seat in this neighborhood, with a small farm of fifty or seventy-five acres; and near him is Mr. Mackall of the Treasury, and Mr. Jones, of the Post-Office Department; each of them delightfully situated, and in possession of all the means and appliances of good husbandry. The lapse of a few years cannot fail, in my judgment, greatly to enhance the market value of the lands in this region, rapidly filling up as it is, by intelligent, systematic, and judicious farmers.

A NEW-YORKER.

UTILITY OF BLUE GLASS FOR HOT HOUSES.—In vegetable growth, the blue rays are the most active, the red ones the least so. Hence the benefit of employing glass stained blue or green for the roofs of hot houses.

SWINE.—No. 3.

Introduction of Swine into America.—The first swine, unquestionably, which were introduced into America, must have been brought over to Hispaniola, by Columbus, in his second voyage. He left Spain, in 1493, on the 25th of September, as admiral and commander in chief, with 17 ships, fifteen hundred men, and European trees, plants, and seeds of various kinds. He also brought over quite a number of horses, one bull, and several cows; and certainly, at that time, would not have forgotten so common an animal as the hog.

The first person, so far as we can learn, who imported swine into what now forms a part of the United States, was Ferdinand de Soto. He brought them, together with horses, from the island of Cuba, and landed them in Florida, in the year 1538.

The Portuguese took swine and cattle to Newfoundland and Nova Scotia, in the year 1553. Thirty years after this, they had multiplied so abundantly, that Sir Richard Gilbert, when coasting that region, in undertaking to land, to obtain supplies of cattle and hogs for his ship's crew, was totally wrecked.

In 1591, the British ship, Henry May, was wrecked on Bermuda, at which time the surviving crew found that island swarming with wild black hogs, though not a single human being was then living there. It is supposed that these swine were the descendants from those belonging to some vessel, which had been cast away many years before, as several Spanish and Dutch wrecks were found on the shore.

Swine and other domestic animals were brought over to Acadia, or New France, by M. L'Escarbot, a French lawyer, in 1604, the first year this country was settled. In 1608, the French extended their settlement into Canada, and soon after introduced the various domestic animals.

In 1609, three ships, from England, landed at Jamestown, Virginia, with many immigrants and the following domestic animals; namely, 6 mares, 1 horse, 600 swine, 500 poultry, with a few goats and sheep. Other domestic animals had been brought there previously. In 1611, Sir Thomas Gates brought over to the same settlement 100 cows besides other cattle. They were kept near Rochdale. As early as 1617, the swine had multiplied so rapidly in this colony that the people were obliged to palisade Jamestown, to prevent being overrun with them.

The plantations on James River, in 1627, contained about 2,000 head of horned cattle, goats in great abundance, and wild hogs in the forest without number. The Indians then fed upon them freely instead of game. Every family that had not an abundance of tame hogs and poultry, at that time, was considered very poor.

As early as 1629, we find that the Plymouth Colony, of Massachusetts, had cattle, goats, swine, and poultry. We may, therefore, conclude that their importation probably followed the year after their first settlement, in 1620. In 1629, 115 more cattle were brought over to this colony, besides horses, 140 goats, and some conies.

We might thus go on, *ad infinitum*, in giving details of various importations of the domestic animals into America; but we think we have said

enough to show that they were coeval, or nearly so, in their introduction, with the humane species; so that the history of the settlement and progress of the population of this country, may be considered that of the domestic animals.

What these various breeds of swine were, we are unable to learn, save that those introduced into Virginia, from Bermuda, were pretty much the same as is now known as the Spanish black hog, a very fine, well-bred animal, of medium size. It is said they have continued from their first importation down to the present day, to exercise a marked influence in the shape and general characteristics of many of the best southern hogs.

The Chinese, Siamese, and cognate breeds, from various parts of Asia, Africa, and the European shores of the Mediterranean, have often been brought to this country by enterprising merchants, the captains of our trading ships, as well as by officers of the navy. These were distributed among our farmers, and were the cause of more or less improvement in the native stock.

The first swine of which we can find any reliable account, as having made much improvement in the stock of the United States, was a pair of pigs sent by the Duke of Bedford, to Gen. Washington, by a Mr. Parkinson, an English farmer, who came to this country in 179—. He leased a farm in the vicinity of Baltimore, Maryland, where he resided some time. Instead of delivering these pigs to Washington, he dishonestly sold them. They were generally called the "Woburn," or "Bedford breed," but in some districts in this country, they were known by the name of the "Parkinson hog." They originated at Woburn, the estate of the Duke of Bedford, and were produced by a cross of the Chinese boar on the large English hog. In their perfection, they were a splendid breed; being fine in their points, of deep, round carcass, short legs, and thin hair. They kept easily, and matured early. At 12 to 20 months old, they usually weighed from 300 to 600 lbs. They had light offal, and their meat was of the first quality. Their color was white, broken more or less with dark blue or ash-colored spots. The steward of the Duke of Bedford, informed us, in 1841, that the true breed in England, had become extinct several years before; and we believe its purity is no longer known in the United States. They were at one time widely diffused in Maryland, and the border counties of Virginia, as well as in Pennsylvania. General Ridgely, of Maryland, bred the Woburns in high perfection. He sent a pair to Mr. Timothy Pickering, of Salem, Massachusetts, the descendants of which, and their crosses, were extensively bred over this and the adjoining states.

The veteran editor of the Farmer's Library, J. S. Skinner, Esq., informs us, that, in the year 1823, when residing in Baltimore, and then editing the American Farmer, an Englishman by the name of Wright, sent him a pair of black hogs, which were nearly as fine, but something larger, than the Woburns. Through his patriotic efforts, their stock became widely distributed in Maryland, and still farther south, where it was highly approved.

The "Byfield," sometimes known as the "Grass breed," derives its first name from the circumstance of a farmer in the town of Byfield, Massachusetts,

about thirty years ago, accidentally picking up a pretty pig one day in the market, and taking it home and breeding from it. The progeny proved to be fine and quiet little animals; but in consequence of their rarely attaining over 250 to 300 lbs. weight, full grown, and being rather shy breeders, they were soon given up as too small and unprofitable for the general purposes of the farmer. Their color was pure white.

Captain John Mackay, of Boston, Mass., produced a superior breed of swine, about the year 1825, by judiciously crossing various excellent animals, which he had the good taste and enterprise to select and bring home in his voyages from vari-

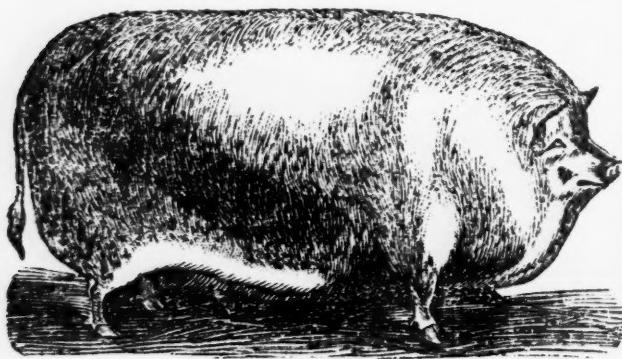


FIG. 34.

ous quarters of the globe. It is said that the pigs, from which he derived the greatest benefit in establishing his breed, came from China. This breed was given the name of "Mackay," in honor of its originator, by Sanford Howard, Esq., at present one of the editors of the Albany Cultivator. Mr.

for their history. Col. Samuel Jaques, of Ten-Hills Farm, near Boston, the Honorable Daniel Webster, the great northern statesman, of Marshfield, and Mr. Paoli Lathrop, of South Hadley Falls, still possess the Mackays in their original purity. Those we have seen of this breed, were large, thrifty, and fine; and of a pure white color. We have no doubt they were quite equal to the celebrated Woburns.

The Spanish black hogs, from the Mediterranean, brought over by Commodore Chauncey and other naval officers, have been sources of considerable improvement along the Atlantic coast. Then we have had the Norfolk Thin-rind, the Leicestershire, the Lincolnshire, the Hampshire, the Yorkshire, the English and Irish Grazier, the French, the Swiss, the German, the Neapolitan, the Russian, the Calcutta, and time would fail to tell how many more breeds, if we undertook to enumerate them all.

We now come to the breed which has been more widely spread, and exercised a greater influence in giving shape and character to the swine of the United States, than any other. We allude to the "Berkshire." The first was imported from England, in 1823, by the late Mr. John Brentnall. He was an English farmer, and settled in Canterbury, Orange county, N. Y. The next importation of Berkshires, was in the autumn of 1832, by Mr. Sidney Hawes, who resided on the Three-Hills Farm (since owned by Mr. Bement), in Albany, this state. In 1833 and '35, he made other importations; and after his return to England, in 1838, he sent out others in 1839. Subsequent to this, Messrs. Bagg & Wait, of Montgomery, Orange county, N. Y., made large importations of Berkshires, both here and into

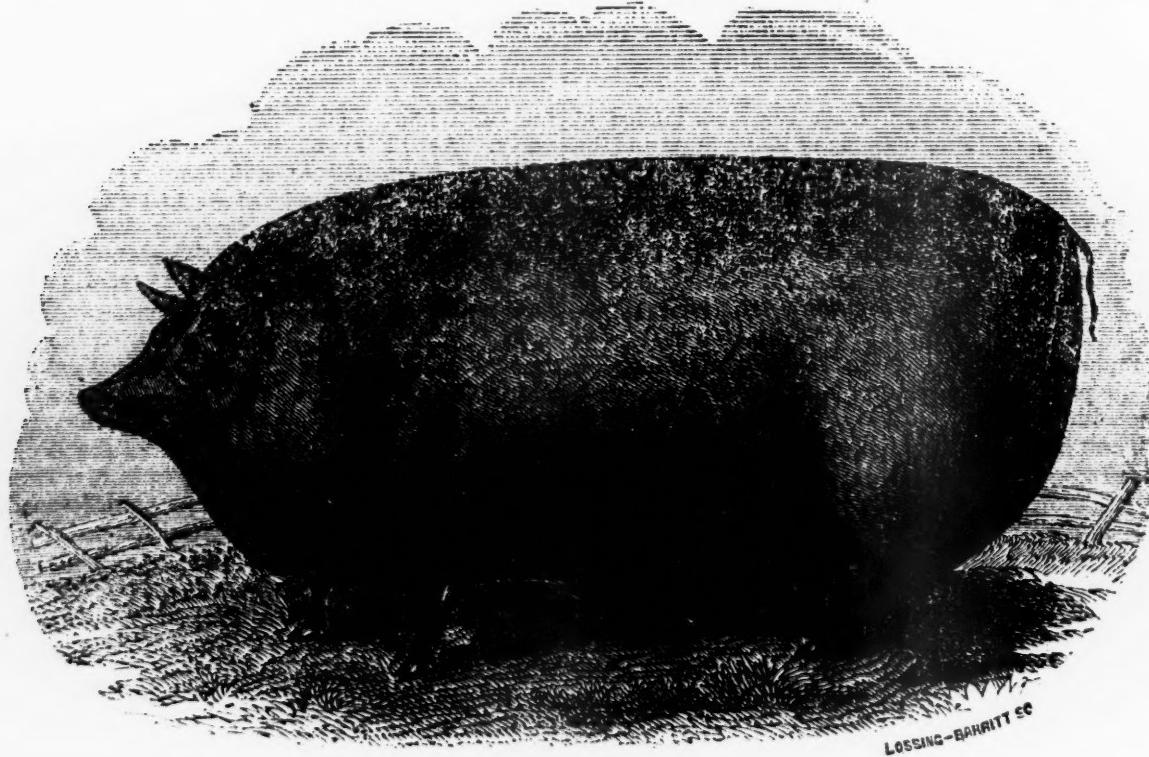


FIG. 35.

H., obtained some stock of Capt. M., as early as 1830, and was highly instrumental in diffusing those he bred from it, in different parts of the United States. It is to him that we are mainly indebted

the south and west. In 1841, we imported upward of forty head of this superior breed.

The Berkshires are so well known, that we need not describe them. Notwithstanding the dis-

pointment and prejudices of some, we say emphatically, that taking them all in all, we still think those which are well bred, the best farmer's hog ever imported into, or reared in, this country. They are a particularly valuable breed for the west, as they have proved themselves better travellers than any others, when driven over the mountains to a distant market. This is an important consideration; and when Berkshires can no longer be found, they will be more highly thought of than ever, and the farmers will seek, when it is too late, to get into the breed again.

James G. King, Esq., of New York, while at Liverpool, England, in 1838, obtained two sows and a boar of the Neapolitan breed of swine, which cost him about \$150. He brought these home with him, and generously distributed their produce gratuitously among the farmers of the country, at the south as well as at the north. In 1841, he presented fifteen of these animals (among which were those originally imported), to the New York State Agricultural Society. Being almost entirely destitute of hair, this breed was not found sufficiently hardy to withstand our northern winters; but those he sent to Georgia, thrived well, and found great favor in that warm climate.

John P. Cushing, Esq., of Watertown, Mass., has often imported swine from China and other quarters of the globe, at great expense, and has generously distributed their progeny gratuitously among the farmers of his state.

In 1841, Mr. William Stickney, of Boston, imported a pair of Suffolk pigs, which he has followed up by other importations, nearly every year since. His hogs are of medium size, of a white color, very fine in all their points, with deep full chests, round bodies, thick hams, and short legs. They are docile, thrifty, mature early, and are easily kept. Their pork is considered very delicate and fine. They will weigh from 200 to 450 lbs. at 12 to 18 months old. This breed of swine, some few of which occasionally come up as high as 500 lbs., is beginning to be pretty well known; and as they are of a favorite color, we think they are destined to be widely disseminated.

C. N. Bement, Esq., editor of the American Journal of Agriculture and Science, at Albany, N. Y., is now establishing a breed much like the Suffolk, of which he thinks highly. For a particular account and portrait of one of this breed, see volume sixth, p. 369, of the Agriculturist. Mr. Bement has given his pigs the name of "Medley," indicative of the admirable mixture of blood he seems to have stirred up to give shape and character to them.

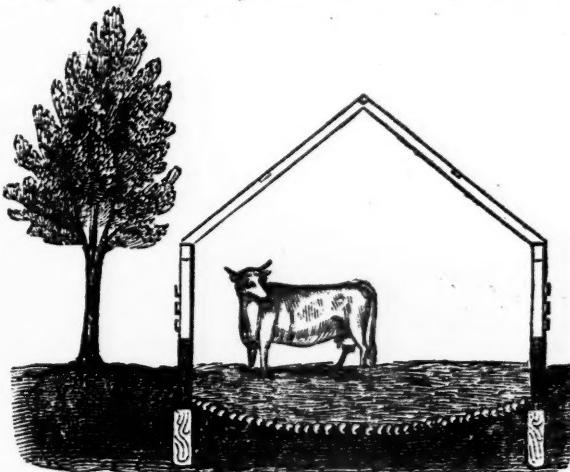
Thus we have given our readers, in a brief way, all we at present know of any great importance concerning the history of the importation and breeding of improved swine in the United States. To any one who can furnish us with other information on this interesting subject, we shall feel highly indebted.

We now present our readers with the portraits of two pigs, which we think very perfect of their kind. Fig. 34, is exactly like the improved Chinese, which we formerly bred, and would not be a bad

portrait for a small, well-fatted Suffolk, or Berkshire. Fig. 35, is a good representation of a choice hog for a farmer, weighing from 400 to 500 lbs. It is an excellent model to go by, and every farmer ought to have it before him as a guide in breeding. The best Suffolks, well fattened, nearly resemble this; so also do the Berkshires, except that they are inclined to be somewhat steeper in the rump.

A STERCORARY, OR COVERED FARM YARD.

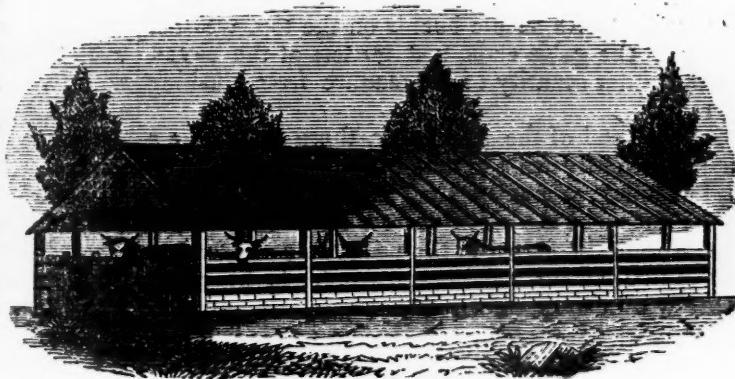
A FARM yard, in all cases, should have a firm, water-proof bottom, roofed over sufficiently to ward off the sun and rain, and amply ventilated at the sides. Those who are unable to incur the expense of a proper stercorary can form a vat, three feet



CROSS SECTION.—FIG. 36.

deep with a dry bottom, which may be covered by a roof of rough poles and straw, supported by posts set in the ground. The loss of manure by rains and evaporation, for the want of a roof, or cover, is almost incalculable. For it has been found by experience, that, animals thrive quite as well under cover, resting on their own excrement, muck, straw, &c., as when confined in a yard or pen in the open air.

With proper management, in the course of a year, if kept under cover, a consolidated mass, three or four feet in thickness, may be accumulated, which will cut out like a good dung heap, and be fit to apply to the land at once; whereas, in open yards, a great proportion of the fertilizing salts wash out



A STERCORARY.—FIG. 37.

by rains, and evaporate by the sun. There is economy and comfort, also, in keeping everything dry; and besides, it does away with the necessity of removing the manure into heaps, and the expense of water carts and tanks; for the liquid portions

of the manure are just sufficient to moisten and decompose the muck, straw, weeds, and other absorbent materials, with which they are mixed. By this means, the whole of the excrements may be applied to the land, and experience has shown that the crops will grow better than when the manure has been washed.

The size and construction of a stercorary may vary, according to the number of cattle it is to contain, and the taste and means of the owner. As a general rule, the space allotted to each animal should not contain less than 70 square feet, with a bed of litter and muck 3 feet deep. The plan we would prefer to adopt, is shown by figures 36 and 37, being 20 feet wide, and allowing 7 feet in length for each pair of animals. First, a pit may be dug, 20 feet wide, varying in length, according to the number of your herd, and from 2 feet to 2½ feet deep, the bottom of which may be covered with small stones, laid in mortar, or cement, similar to those used in paving streets. Next, a row of posts, 10 or 12 feet long and 8 inches in diameter, may be set in the ground, 10 feet apart, on each side of the pit, with their top ends rising 8 feet above the pavement, or about 6 feet above the surface of the ground, for the purpose of supporting the roof. Then, a water-tight wall, or curb, may be constructed entirely around the sides and ends of the pit, formed of masonry, or wood work, rising about 3 feet above the pavement, or 1 foot above the ground, with the exception of the gateways, which should be left but little higher than the surface, in order to admit the free passage of animals and carts. To the top of each row of posts, there should be spiked, or framed, a plate of wood, 6 by 8 inches, just 20 feet apart, from outside to outside, for supporting the ends of the rafters. The pitch of the roof may be 7 feet, requiring rafters 4 by 6 inches, and 12½ feet in length, a pair of which should be spiked to the plates, once in every 10 feet. To the top of the rafters there should be confined a ridge pole, 3 by 3 inches; and one small purlin on each side of the roof. The latter may be covered with rough boards, 13 feet in length, with their ends projecting 6 inches at the eaves, and the cracks covered with battens 3 inches in width. The gable ends should also be covered with boards, which may be perforated with holes for the passage of pigeons, into and out of their cotes. The roof should likewise be provided with saddle boards on the top, weather boards at the gable ends, and gutters at the eaves, for the better security of the manure from washing by rains.

At each end of the stercorary, there should be a gate sufficiently wide to admit the passage of a cart load of muck, or manure; and around the remainder of the ends and the sides, narrow strips of plank, or rails, should be nailed to the posts, so as to form a substantial barrier, or fence, in order to keep the cattle within their pale. The whole building may be covered with coaltar, paint, or any other materials; or it may be otherwise preserved and ornamented, in such a manner as the caprice or ingenuity of the owner may invent or devise.

On the sunny side of the stercorary, about 5 feet from the posts, fruit trees may be planted, which will not only prove ornamental, but afford both fruit and shade.

If the system of soiling, or stall feeding, is wished to be pursued, racks and mangers can be constructed at the sides of the inclosure, and the cattle can be confined the principal part of the day, as well as at night, and thus effect a saving of almost a double quantity of manure. The pit, when empty, should be filled with dried peat, muck, or swamp mud, and littered with straw, refuse hay, weeds, or fallen leaves. As these substances become decomposed and mixed with the urine and excrement of the animals, more may be added, from time to time, in a dry, or pulverized state, with occasionally a sprinkling of powdered plaster, but *never of wood ashes nor lime.*

FACTS IN FARMING.—No. 2.

Cultivation of Potatoes.—The cultivation of potatoes has become so precarious for the last four or five years, that it may be of service to publish an account of experiments, even if they have proved unsuccessful. I will therefore state my experience, such as it is, with a hope that it will be of more or less benefit to those engaged in the same calling as myself.

I have planted on a variety of soils, including a heavy clayey loam, gravel, black vegetable earth, loam, rich in animal and vegetable matter, and on a light, sandy loam. In the latter, I have always succeeded in raising sound potatoes, and I consider such a soil the most certain of producing a sound, healthy crop.

In 1845, I planted my potatoes in April, May, June, and July. Those planted in May, I found succeeded best; and the vines of those planted late decayed early in September, soon after the young tubers began to form.

On the 15th of May, 1846, I planted an acre of potatoes, on a moist loam, suitable for growing Indian corn. One part of the field, I manured with newly-slacked lime; one with wood ashes; one with charcoal; one with bone dust; one with poudrette; and another part with plaster, lime, ashes, and salt, mixed. The result was, that the largest yield and the least rot, occurred where lime only was applied, at the time of planting, in the hill.

Observing that the two rows of potatoes next to the corn, which occupied a part of the last-named field, were entirely free from disease, and produced well, last season (1847), I planted a lot, alternately, with two rows of corn, and two rows of potatoes; also, a small patch exclusively with potatoes, in the same field, manuring the whole with lime in the hill. Those produced between the corn were all sound, and continue so to the present time, and were abundant in their yield; whereas, the others, planted by themselves, were more or less affected with disease. A portion of the ground was sub-soiled to the depth of 16 inches. On this part, the produce was one third greater.

From my experience, as above, I would recommend potatoes to be planted among Indian corn, before the 15th of May, in a light, sandy loam, or some other dry soil, sub-soiled 16 inches deep, with a gill of newly-slacked lime, applied to each hill.

D.

Orange County, N. Y., March 27th, 1848.

YANKEE FARMING.—No. 4.

Good people all of every sort,
Give ear unto my song;
And if you find it wondrous short,
It cannot hold you long.

Mr. Doolittle's Argument with Major Goodell on Raising Potatoes.—“I'll tell ye what, Major,” said Uncle Sim, pitching his voice in a loud key, and cocking his eye sharply up, “as for drivin' oxen, tho' a little man, you be big punkins and no mistake. I'll never dispute that pint with ye—I gin in at once; but, as for plantin' taters, hain't I done it, man and boy, this fifty year or more, as my father did afore me? And whose bring most in market now, yourn or mine? Jest tell me that. Heh?” “O, yes, let us hear it, Major,” he added, in a softer tone, and with a self-evident chuckle, at the same time smartly slapping his breeches pocket, as if he had the extra cash there, he had obtained for his potatoes, to jingle in a climax to his dogmatic assertions. “Wal, now, ain't there Squire Jones, and ain't he got more larnin' than a dozen on us all put together? He never disputes my taters, but ollous asks in his perlite way when we meet in the spring, ‘Mr. Doolittle, my good sir, says he, anything new in the way of potatoes this year? Any new experiments? Any new facts? And does your choice seed continue to hold good? You know I am no competitor with you in the market; I only cultivate them for my own family wants; and whose so good as yours?’ Wal, now, that is clever, and Squire Jones is a gentleman, every inch on him; and I mean to vote for him for justice o' the peace and assemblyman, as long as he will consent to serve the public; and for congressman, too, or leftenant governor, if he is set up, as they talked on all this winter.”

Now, although Major Goodell was the best drummer in the regiment, and it was allowed on all hands, that he could make more noise than any other man on a field day, beating the “double drag” at its head, still he could not hold a coon skin to Uncle Sim, in a set argument; he therefore very wisely abstained from a reply, and instead thereof, gave a hitch forward with his right leg, as if his drum were resting against it, drew a sharp whistling breath by way of pitching his tune, and then commenced beating a rattling rub-a-dub quick step, with the palms of his hands, on the lower region of his stomach, thinking, doubtless, that if he could not rebut Uncle Sim's dogged assertions, he could at least drown the noise of them in a reveille, on his imaginary drumhead.

It was at the commencement of this scene that I happened to be passing, and becoming interested in the matter, I took a neighbor's liberty of stopping to hear it out. I found that Mr. Doolittle had exhausted all but two yoke of his poor miserable steers, wintered on bog hay, with the spring's work of carting out manure, and plowing his corn land, and was obliged to employ Major Goodell's crack team to assist him in plowing his potato ground, agreeing to pay him in an exchange of days' work at hoeing time. While they were preparing their plows for operation, they had got into an argument on the subject of raising potatoes; the Major contending, that land, which had been first cropped with corn, and then heavily dressed with fresh barn-yard

manure, rank sea weed, or other putrescent vegetable matter, spread broadcast and plowed under, and then manuring with the same in addition in the hill, was the best for potatoes; and furthermore that the richest soil, such as was rather moist, because the coldest, was the most suitable for this crop. To this Uncle Sim was totally opposed; “he'd hear nothin' about it; taters raised in sich a way, and on sich a sile, ollous had a tangy taste—was watery, and would rot now-a-days, in spite o' all a body could do. ‘Yes, Major, I can git a big crop so, but what's it good for? Jest tell me that, will ye? Not fit for a hog to eat—then howsomever less for a hyman critter. I aint agoin' to spile my seed in sich doin's; and ye may drum, Major, till ye beat your belly off, and you won't turn me—not you. I'll tell ye what, Sargeant, and I'm glad ye're here now to larn it”—he continued, turning round to me, and cocking his eye with great earnestness; “if ye want good taters and a good crop, this is the way to git 'em. Take an old pastur with a thick sod, that's got rich itself; let it be sound and poorty dry sile, yet none o' ye're grav'y knolls; and don't let a critter come on to it in the spring. By the first o' June the grass gits well up, then put in the team; turn a furrer six inches deep, and one foot wide, over the 'jining sod; gee about to the eend o' the furrer, and turn up another jest like the first, layin' its edge close along side on't, as it turns over. This leaves a clean soddy ridge two foot wide. Mind and foller arter the surface plow with a sub-sile plow, stirrin' up the airth six inches deeper, and this will grow rich from the dews, by hoein' time, and be loose and meller, and all be wanted then for hillin' up. This is a fact I got last year from Squire Jones.” Yes, I put in here, and he got that idea from a book, so that's book learning, if you please, Mr. Doolittle. “Wal, it ai'n't book larnin' for me, which I don't believe in,” he stoutly added. “I tell ye what, Sargeant, Squire Jones telled me that himself, and its a first-rate fact o' hizzin, which, as I said afore, I proved last year to my benefit, so don't interrupt me agin. Now, in the center o' this ridge o' turned-up sod, about which I was a tellin' on ye, make holes three inches deep and a foot apart the whole length on't, with a corner o' the hoe, without disturbin' the sod, and drop a piece o' cut tater; put over this a pint o' air-slacked lime, or as much charcoal, or unleached ashes (the two first are the surest tho'), turn the raised airth back over the seed, give it a spat with the flat o' the hoe, and so go on. The rank, green grass turned in makes the sod rot jest about fast enough to feed the growin' taters; and that part over where the furrers is turned, when the crop is dug in the fall, will be as fine as an ash heap, and the whole field will be well prepared for corn the next spring, which the Major may then manure jest as much as he pleases, and no fault will be found by Simeon Doolittle, or Simeon Doomuch, as folks sometimes call me, when they git kinder jealousy, and think I'm takin' the shine out on 'em in good farmin'; but I don't mind 'em. ‘He preaches well who does well.’ ‘Don't look for honey in a neest o' wasps.’ ‘Ye can't make a augur hole with a gimblet.’ ‘Empty vessels make the most noise.’ But I'm gittin' afore my story. The taters will only want one hoein'; and the time to do this is, jest afore the

flowers is ready to set. Then run a one-horse plow down and back each row, turnin' the dirt to the taters." "Now ye'll find the benefit o' the sub-silin'; for the way the rich meller airth will turn up," continued Uncle Sim, looking very consequential and wise, at the same time turning his body abruptly round on his right heel, and flourishing his arms, which came within an inch of upsetting both the doughty little Major and myself—"will be bootiful; and a grandacious fact to all sight seeers. Yes, and to them as don't see, and is so contrary as don't believe nothin' 'cept what they think they know themselves; but self-consate ollous makes a man obstinate. Wal, put in the hoes now and hill up well, and ye won't find a weed scacey in the field all summer, nor a spear o' grass, nor anything else, 'cept the thick tater vines, coverin' the ground like a deep green mat. Dig 'em up airy in the fall, and not a speck o' rotten tater will ye find in a hundred; and if the season hasn't been very dry, what big ones they'll roll out! Heh? And how smooth, and thin, and kinder shiny in their skins, and so mealy to eat," continued the eloquent Mr. Doolittle, smacking his lips, "no wonder I git about two times as much a bushel for 'em as anybody else in our town; for they're worth it." "Yes, Sargeant, they're worth it," nodding his head emphatically, "as all the sloop captins say, who go tradin' down to York, with taters and inions." And then he sung:

"Little boats should keep near shore,
Greater one's may venture more."

That's a fact, Mr. Doolittle, I replied, and nothing gives me greater pleasure than to acknowledge your skill in cultivating potatoes, the more especially as we are so often at loggerheads on many other matters. You are a scientific man, sir, upon this crop. The roots of the grass, forming the turf you plow up, abound in potash, and this is one of the most essential manures for a potato crop; next most essential is lime, which acts also as a preventive to the rot; salt is an excellent manure, but we are so near the sea, that some are of opinion we get enough of this from exhalations of the ocean. However, this last is a disputed point, and I'll not dwell upon it. The more mealy the potato, the more starch in it, and this is its principal nutritious quality. Some varieties contain twice as much starch in them as others; and herein the kind you cultivate, my good neighbor, cannot be excelled. Thousands of bushels were lost in our state last year, in consequence of not selecting the right kind of soil, and properly planting and cultivating them; and I dare say, notwithstanding your good example, Mr. Doolittle, and the clear, explicit information you have just given us of your practice, thousands of bushels will share the same fate this year; and all because our brother farmers will not read and follow so excellent an example as yourself. Uncle Sim hung his head, looked down and blushed deeply at my commendations, but said not a word; while the Major paused in his drumming, and declared he "never knowed afore, that we had so much larnin'. He shouln't oppose Mr. Doolittle agin on the tater question; but would start up his oxen now he'd got all fixed, and show him sich plowin' as he'd never seen afore." At this, his splendid red team set off with a "Go it, Buck, now;" and with no other guide for their movements than the Major's voice, while he

held the plow himself, he turned his furrows as straight as one could draw a line, and so evenly I doubt whether they varied over an inch in depth or width throughout the whole field. As he came round in his third land, I was so delighted with the movement of his superb cattle, I could not but say, well, Major, you are really a whole team, that's certain, and you more than make good the old saying, of

"He that by the plow would thrive
Must either hold himself or drive."

for you, my good sir, hold and drive, too.

"Oh Sargeant, that's nothin'," he replied, "my oxen, dum beasts as they be, know as much, sometimes I think, as some human critters; and they will go right o' themselves any how. Some folks is wise, ye know, and some be otherwise;" and away he started again, whistling Yankee Doodle, while he kept time to his music by drumming with either palm on his plow handles.

Uncle Sim followed with a pair of his recruited steers, close on the Major's heels, holding the light sub-soil plow himself, while his son Bill drove; the Major giving a cheering rub-a-dub every time he rounded the end of his furrow, with a "march along, neighbor, don't fall in the rear; this is the way to stir tater land." "Aye, aye," said Uncle Sim; and as he had two yoke of his steers on the ground, he changed them every fourth bout; and by thus giving them an alternate breathing spell, with Bill to flourish the whip, and stirring his own legs uncommonly quick, he held a pretty even pace with the doughty Major.

It was a great pleasure to stand by and see the glistening plow shares following each other almost like things of life, heaving up the land so beautifully; and as I wheeled round to return home to my own work, I involuntarily began humming a stanza or two of Mrs. Sigourney's noble hymn of "God Save the Plow."

"See how the shining share
Maketh earth's bosom fair—
Crowning her brow,
Bread in its furrow springs,
Health and repose it brings,
Treasures unknown to kings—
God save the plow!"

"Who are the truly great?
Minions of pomp and state,
Where the crowd bow?
Give us hard hands and free
Culturers of field and tree
Best friends of liberty—
God save the plow!"

SERGEANT TELTRUE.

To PREVENT CHICKENS FROM GETTING THE GAPES.—Let their first food be coarse Indian meal, almost dry; then give crushed corn. As soon as they can swallow whole grains, let them have them unbroken. All poultry yards, of course, should be supplied with lime, and the chickens should have free access to pure water. After the gapes appear, the cure is always doubtful; but crushed corn soaked in very strong alum water, is perhaps the best remedy. A soft feather, well greased with lard, thrust gently into the windpipe, and twisted round a few times, has been found effective in bringing up, and destroying the worms, that are the cause of the disease; which is nothing more than an intolerable tickling and itching produced by the motion of the worms.

E. S.

THE GUINEA FOWL.

THE Guinea fowl (*Numida meleagris*), is no great favorite with poultry keepers, in general, but is one of those unfortunate beings, which, from having been occasionally guilty of now and then a trifling fault, has acquired a much worse reputation than it really deserves. Notwithstanding this, it is useful, ornamental, and interesting during life, and a desirable addition to the table, when dead.

The plumage of this bird is singularly beautiful, being spangled over with an infinity of white spots on a black ground, shaded with grey and brown. The spots vary from the size of a pea to extreme minuteness. Rarely, the black and white change places, causing the bird to appear as if covered with a network of lace. A white variety is not uncommon, but is less hardy, and it is doubtful how long either this, or the former one, would remain permanent; probably but for few generations. Pied birds, blotched with patches of white, are frequent, but are not comparable, in point of beauty, with those of the original wild color. The head and face are remarkable. The scarlet wattles, naked skin, distinct mark of the eye brow, bright, glancing eyes, and comical, quick expression, make, at a front view, a perfect miniature of a clown, dressed and painted for the circus, or pantomime.

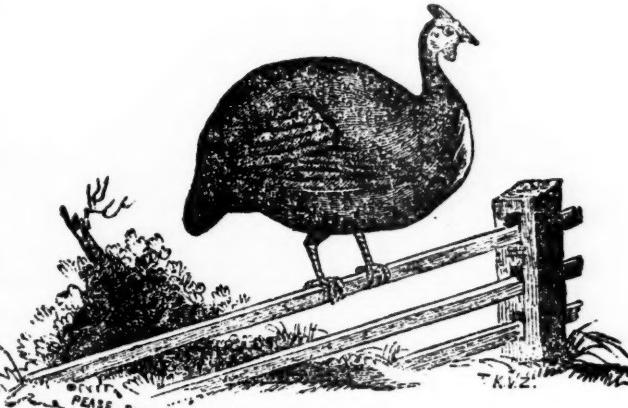
There is one circumstance, in regard to the habits of the Guinea cock, which may not generally be known; that is, he is monogamous, or having one wife only, paring with his mate, like a partridge, or pigeon, and remaining faithful to her (perhaps with one or two trifling peccadilloes), so long as they continue to live together. It is generally supposed that he, like the common cock, is pleased with a plurality of wives; and the supposition is acted on with bad practical effect. In the case where a Guinea cock and two hens are kept (a usual number), it will be found, on close observation, that though the three keep together so as to form one "pack," according to their original instinct, yet that the cock and one hen will be unkind and stingy to the other unfortunate female, keep her at a certain distance, merely suffering her society, and making her feel that she is with them only on sufferance. The neglected hen will lay eggs, in appearance, like those of the other, but not so many, probably, in the same nest. If they are to be eaten, all well and good; but if a brood is wanted and the eggs of the despised one chance to be taken for the purpose of hatching, the result is disappointment and addled eggs. If the produce of the favorite, or rather the lawful, wife are selected, at the end of the month, you have so many strong chicks; if a mixture of eggs come to hand, the hatch is in proportion. Therefore, let all those who wish to succeed with Guinea fowls, match their birds as strictly as the couples in a country dance.

It is not every one who knows a cock from a hen of this species. An unerring rule is, that the hen alone uses the call note "come back," "come back," accenting the second syllable strongly, from which they are often called "come backs." The cock has only the harsh, shrill cry of alarm, which, however, is also common to the female.

Their amours are conducted with strict decorum

and privacy. The cock, however, is properly polite and attentive to his own hen, in public, walking very close by her side, so as to touch her wings with his own, offering her tit bits, now and then a worm, or a grain of corn; he has also a habit of running very quick for a few steps, and then walking affectedly on tip toe, with a mincing air, like the dandy in a Christmas pantomime, setting up his back and increasing his apparent height. These latter symptoms are less evident in youth, when it is necessary to make the selection, and the call note will be found the safest guide. He attends his own hen to the nest, waits for her close at hand, till she has made her contribution to the treasury already there; and will occasionally betray the situation of the secret hoard, by his extreme solicitude in announcing the approach of intruders.

Of all known birds, this, perhaps, is the most prolific of eggs. Week after week and month after month see little or no intermission of the daily deposit. Even the process of moulting is sometimes insufficient to draw off the nutriment the creature takes to make feathers instead of eggs. As the body of a good cow is a distillery for converting all sorts of herbage into milk, and nothing else, or as little else as possible, so the body of the Guinea hen is a most admirable machine for pro-



THE GUINEA FOWL.—FIG. 38.

ducing eggs out of insects, vegetables, garbage, or grain.

From this great aptitude for laying, which is a natural property, and not an artificially-encouraged habit, and also from the very little disposition they show to sit, it is believed, that, in their native country, the dry, burning wastes of Central Africa, they do not sit at all on their eggs, but leave them to be hatched by the sun, like ostriches, to which they bear a close affinity. It is certain that the sands of tropical Africa are more than hot enough to hatch them, and that the young birds are unusually vivacious and independent, if they have but a supply of proper food, which they would find in the myriads of insects engendered there. They are also found wild on the island of Ascension, but it is doubtful whether any accurate account of their habits, or mode of increase, there is extant.

Rearing, Management, &c.—The best way to begin keeping Guinea fowls, is, to procure a sitting of eggs from some friend, on whom you can depend, for their freshness; and, also, if possible, *from a place where only a single pair is kept*, the reason for

which, has already been stated. They are in season from the middle of December till May. A Bantam hen is the best mother, being lighter, and less likely to injure them by treading on them than a full-sized fowl. She will well cover nine eggs, and incubation will last a month. The young are excessively pretty. When first hatched, they are so strong and active as to appear not to require the attention really necessary to rear them. Almost as soon as they are dry, from the moisture of the egg, they will peck each other's toes, as if supposing them to be worms, will scramble with each other for a crumb of bread, and will domineer over any little Bantam, or chicken, that may perhaps have been brought off in the same clutch with themselves. No one, who did not know, would guess, from their appearance, of what species of bird they were the offspring. Their orange-red bills and legs, and the dark, zebra-like stripes, with which they are regularly marked, from head to tail, bear no traces of the speckled plumage of their parents.

Hard-boiled egg, chopped fine, small worms, maggots, bread crumbs, chopped meat, or suet, whatever, in short, is most nutritious, is their most appropriate food. This need not be offered to them in large quantities, as it would only be devoured by the mother Bantam, as soon as she saw that her little ones had for the time satisfied their appetites; but it should be frequently administered to them, in small supplies. Feeding them three, four, or five times a day, is not nearly often enough; every half hour, during daylight, they should be tempted to fill their little craws, which are soon emptied again by an extraordinary power and quickness of digestion. The newly-hatched Guinea fowl is a tiny creature, a mere infinitesimal of the full-grown bird; its growth is consequently very rapid, and requires incessant supplies. A check once received can never be recovered. In such cases, they do not mope and pine, for a day or two, like young turkeys under similar circumstances, and then die; but in half an hour after, being in apparent health, they fall on their backs, give a convulsive kick or two, and fall victims, in point of fact, to starvation. The demands of nature for the growth of bone, muscle, and particularly of feather, are so great, that no subsequent, abundant supply of food can make up for a fast of a couple of hours. The feathers still go on, grow, grow, grow, in geometrical progression, and drain the sources of vitality still faster than they can be supplied, till the bird faints and expires from want of fullness.

This constant supply of suitable food, it is believed, is the great secret in rearing the more delicate birds, turkeys, Guinea fowls, pheasants, &c., never to suffer the growth of the chick (which goes on whether it has food in its stomach or not), to produce exhaustion of the vital powers, for want of the necessary aliment. Young turkeys, as soon as they once feel languid, from this cause, refuse their food when it is at last offered to them (just like a man whose appetite is gone, in consequence of having waited too long for his dinner), and never would eat more, were food not forced down their throats, by which operation they may frequently be recovered; but the little Guinea fowls give no notice of this faintness, till they are past all cure; and a struggle of a few minutes shows that they have, indeed,

outgrown their strength, or rather that the material for producing strength, has not been supplied to them in a degree commensurate with their growth.

A dry, sunny corner, in the garden, will be the best place to coop them with their Bantam mother. As they increase in strength, they will do no harm, but a great deal of good, by devouring worms, grubs, caterpillars, maggots, and all sorts of insects. By the time their bodies are little bigger than those of sparrows, they will be able to fly with some degree of strength; and it is very pleasing to see them essay the use of their wings at the call of their foster mother, or the approach of their feeder. It is one out of millions of instances of the provident wisdom of the Almighty Creator, that the wing and tail feathers of young gallinaceous birds, with which they require to be furnished, at the earliest possible time, as a means of escape from their numerous enemies, exhibit the most rapid growth of any part of their frame. Other additions to their complete stature are successively and less immediately developed. The wings of a chicken are soon fledged enough to be of great resistance to it; the spurs, comb, and ornamental plumage do not appear till quite a subsequent period.

When the young Guinea fowls are about the size of quails, or perhaps a little larger, their mother Bantam (which we suppose to be a tame, quiet, matronly creature), may be suffered to range loose in the orchard and fields, and no longer be permitted to enter the garden, lest her family should acquire a habit of visiting it at a time when their presence would be less welcome than formerly. They must still, however, receive a bountiful and frequent supply of food; they are not to be considered safe till the horn on their heads is fairly grown. Indian meal, as a great treat, cooked potatoes, boiled rice, anything, in short, that is eatable, may be thrown down to them. They will pick the bones left after dinner with great satisfaction, and no doubt benefit to themselves. The tamer they can be made, the less troublesome will those birds be which you retain for stock; the more kindly they are treated, the more they are petted and pampered, the fatter and better-conditioned will the others become, which you design for your own table, or as presents to your friends, and the better price will you get, if you send them to market.

At a certain period, they will have got beyond the management of their good little Bantam mother, and will cast off her authority. They will form what has appropriately been called a "pack;" prowling about in a body, after insects, and seeds, or grazing together (for they eat a great deal of grass), still in a pack; fiercely driving away any intruder on their society, and all giving tongue, in one chorus, at the approach of any danger. When fully grown, they weigh from 3 to 4 lbs.

Birds, thus reared on the spot, where they are meant to be kept, are sure to thrive better and give less trouble than those procured from a distance; they sometimes, will not remain in their new home, but wander about in search of their old haunts till they either find them, or are themselves lost, destroyed, or stolen.

It is of no use to shut up these fowls to fatten, unless, they have previously been made particularly tame, as they would sulk, pine, and die, before they

became reconciled to confinement, in spite of its extra diet. The only plan, therefore, is to keep them in high condition during the winter, by liberal hand feeding. The best practice is not to kill them with the knife, like other poultry, but to dislocate their necks, leaving the blood in them to remedy the dryness of their flesh, which is the great fault an epicure would find with them. They should also remain in the larder as long as possible before being cooked. It was formerly the fashion for farmers' wives and daughters to make tippets and muffs of the smaller feathers, which much resembled chin-chilli fur in appearance, and were both elegant and useful.

Condensed Correspondence.

MANAGEMENT OF PEACH TREES.

MR. W. D., of Morristown, N. J., is of the opinion, that, where pruning standard peach trees is so little practised as in New Jersey, thinning out the fruit, is an excellent plan. The peach tree, he says, is very apt to overbear; and when loaded down with fruit, its branches are very weak at the forks, split, and fall to the ground; thus, not only destroying a considerable quantity of its fruit, at the most unwelcome period, but often greatly disfiguring the tree; whereas, by thinning out the fruit, when quite small, injuries of this kind, would be obviated. But, in large orchards, this would prove a tedious process and somewhat expensive.

Mr. D. is not an advocate of root pruning; for, in removing the dirt, he contends, that the larger roots must be more or less mutilated, or bruised, by the hoe or spade, which certainly can be of no advantage; and besides, in orchards, that are cultivated by the plow, there will be an abundance of root pruning, without resorting to other means.

WOOD ASHES BENEFICIAL TO MEADOWS.

MR. S. R. GRAY, of Salem, N. Y., informs us that, in the fall of 1845, he sowed 25 bushels of unleached ashes on two acres of meadow, situated on a hill side, facing the west, which had been mown annually for thirty years. The last crop of hay from this ground, preceding the application of the ashes, did not exceed half a ton to the acre; but the next year after (1846), it was more than double that quantity. The year following (1847), the hay crop was mown three weeks earlier than usual, and was more than one fourth heavier than that of 1846.

Mr. G. attributes the increase of the last crop, in part, to the influence of a small stream of water, by which one half of the meadow was overflowed during the early part of the season; yet he concludes that, the principal cause of the increase, was the application of the ashes, which he thinks amply repaid the cost.

DISEASE AMONG CATTLE—A REMEDY.

OUR estimable correspondent, John Brown, 2nd, of Lake Winnipisogee, writes us, that, between March and June, 1835, he lost eight of his cattle, by a disease, which, according to some of the symptoms given, we should judge, was the *garget in the limbs*, otherwise called *hide bound, joint yellows*, and *constitutional rheumatic lameness*. He tried various remedies, but with no good result,

until three others were taken with the same disease; when he procured some garget or poke-berry root (*Phytolacca decandra*), with which he pegged them in the dewlap (the loose skin, or lappet, under the neck), and effected a cure.

The nature of the disease here referred to, together with the operation of "pegging," will be given, at length, in our next article on "The Cow—her Diseases and Management."

GRAFTS FROM THE OLD WYLLIS APPLE TREE.

Our friend, R. L. Colt, Esq., of Paterson, N. J., informs us, that he has lately received some grafts of the "sweet or old English pearmain," taken from the venerable tree now standing on the "Charter-oak Place, at Hartford, in Connecticut, which was brought from England, by George Wyllis, the elder, about the year 1637. It is now regarded as one of the oldest apple trees in the country, and is a mere wreck, as it were, nothing being left of it, but a small segment of bark and wood, not more than 3 or 4 inches thick, and a few branches apparently without life. It has evidently been a very large tree, probably nearly 4 feet in diameter.

Last year, it bore a few very fair apples, of a pear-like consistency, which were quite rich in flavor, though seemingly sweet, and answered admirably well for cooking. Being desirous to perpetuate this fruit, Mr. Colt has taken great pains to procure scions from the original stock, and engraft them on healthy trees of his own, having no faith in the idle theory of varieties running out.

GROUND IVY, OR ALE HOOF, A PERNICIOUS WEED.—Mr. F., of Fairfax county, Va., inquires whether there is any way to exterminate ground ivy (*Glechoma hederacea*), otherwise called "ale hoof," "tun hoof," and "Gill-over-the-ground." He is satisfied that it cannot be killed by plowing nor digging; for, a very small portion of the plant, left in the ground, will spring up and grow, and even the small knots, on the vines, will take root at every joint.

This weed, in Virginia, forms a complete mat, wherever it is suffered to grow. In gardens, orchards, &c., it becomes so firmly rooted, that it is almost impossible to eradicate it from the ground; and in meadows, the grassy turf affords but little opposition to its progress.

REMEDY FOR THE BORER IN THE APPLE TREE.—Mr. J. M. C., of Perth Amboy, N. J., writes us that he has found an effectual remedy against the attack of the apple-tree borer (*Saperda bivittata*), first by scraping away the earth from the roots of the tree, and extracting the worms from the wood, with a sharp-pointed instrument, or chisel, and then plastering over the roots and wounded parts of the trunk, with common mortar, formed of lime and sand, after which, the earth is put back and the tree treated in the usual way.

SCARECROWS.—E. W. A., of Panama, N. Y., states that he has succeeded in preventing crows from pulling up corn, by placing about his field, when planted, ears of corn, stuck on pointed stakes, from 5 to 10 feet in length. The crows, he says, will only devour the corn on the stakes, leaving that in the ground untouched.

Ladies' Department.

ON THE CULTURE OF SILK.

If I have not promptly replied to the very flattering appeal of your correspondent, S. H. R., in the July number of the Agriculturist, "to support her proposition in favor of raising silk worms," I trust she will kindly attribute my apparent neglect to any cause, rather than indifference to her good opinion, or disinclination to aid her in so praiseworthy an undertaking, so far, at least, as my feeble powers may permit.

I have seen many successful attempts at silk culture, and know it can be made, even when carried on in a small way, by individual enterprise, very profitable to those who engage in it with a proper spirit, and under favorable auspices; but to make it so, many things are requisite that are not always at command. In the first place, it requires more time during the silk season, than the mother of a family can have to bestow, if she attends personally to her children, and superintends her household; but in families where the children have advanced beyond the mother's hourly watchfulness, and where all are able and willing to unite in the common interest, by a judicious division of labor, it would be both pleasant and profitable, to take charge of a small cocoonery; and, as from four to six generations of worms can be reared in succession, before the leaves fail in autumn, the quantity of raw material produced, in a single season, would, when sold, make no small addition to the usually small gains of the female part of a farmer's family. A few years ago there was a liberal bounty paid on cocoons in the middle states, which is still, I believe, allowed in some of them. They usually command a high price at the factories, and for reeled silk, also, there is a ready sale. Therefore, when individuals wish to engage in silk culture, with a view to make it profitable, they should confine themselves to the only branch, that on a small scale, can be made so—the care of the worms and the sale of the cocoons. The first object should be, to plant *at least two years in advance*, a sufficient number of mulberry trees, in order that the worms may be furnished with an early and ample supply of the proper kind of food. The most experienced silk culturists here, and it is said, in France also, prefer the leaves of the many-stalked mulberry (*Morus multicaulis*), said by some botanists to be an improved variety of the white mulberry (*Morus alba*), which is a native of China, and is exclusively used by the Chinese and Italians, for feeding silk worms. In the United States, both of these varieties flourish as far north as the forty-third degree of latitude. The mulberry trees require no care after the first year, unless they are lopped down, and kept as pollards, for the greater convenience of gathering the leaves.

In cases of necessity, very young worms may be fed, without injury, for a few days, upon the leaves of lettuce, or the tender buds of the black mulberry; but experience has amply proved, that it is only when they are restricted to the proper kind of food, before mentioned, that silk of the finest texture, and highest lustre can be produced.

This used to be rather a tender subject with me;

but, having burnt my fingers by an amateur experiment in silk culture during the prevalence of the "*Morus multicaulis* fever," which a few years ago proved the ruin of many a fair fortune, I, like most of my neighbors, caught the infection, and my pulse rose to a hundred and ten, at least. But I did not meddle with buying, nor planting trees; nothing would abate the fever but raising silk worms. As my difficulties furnished the subject for a good deal of mirth in the home department, at the time, I am willing to let others be amused, though they may not be much benefitted by my experience. With the natural history of the insects, I was, of course, well acquainted; and knowing they lived but a few weeks, and as I was always fond of pets, I thought it would be very clever to attend to them; and I anticipated, with great satisfaction, the pleasure of knitting divers purses and gloves of my own silk, to present to my friends as specimens of my success and skill. My wish was speedily gratified by a kind old gentleman (I have since had good reason to believe he was amusing himself at my expense), who sent me a quantity of silk worms' eggs, which, as they had been taken from their winter quarters, in his cellar, soon felt the effects of the warmer temperature of my sitting room, and all hatched out in my writing-desk drawer, before the mulberry leaves even thought of being ready to be eaten. I therefore fed them for ten or twelve days with the full-grown leaves of lettuce from the hot bed, and, as might have been anticipated, a large proportion of them died, happily, in their tender infancy; an event I mourned over at the time, but like all unreasonable sorrow, I soon acknowledged was "all for the best."

I still had several thousand worms left, in fine health, and with ravenous appetites; and as I had neglected to provide proper accommodations for such an increase in my family, and as the carpenter was too busy to attend to my wants, I deposited my pets in a large, airy garret room, on tables; and as they grew larger and required more space, boards were spread over an empty bedstead, then from chair to chair, filling the whole room, except the necessary passages between and around them. Here I fed them regularly, and kept them accurately clean, and found myself exceedingly interested in watching their habits and changes. It was healthful, and pleasant, too, to walk every evening to the field of the neighbor from whom I had engaged my mulberry leaves, and gather the supply for the next day; but by the end of a month, the work became intolerably burdensome, and though I had several little "domestic familiars" to assist in cleaning the hurdles and bringing the leaves, I was closely occupied in my attic

"From morn till dewy eve,"

and was then too tired to gather the leaves for myself. The quantity consumed by the little creatures exceeded belief. I could not bear to see them suffer for want of proper care, and it happened that those of the household who would cheerfully have relieved me of part of my labor, were absent from home. So I toiled on, in defiance of heat, fatigue, and disgust (perhaps a little too proud to give up my favorite scheme), after having so confidently predicted the success of my undertaking; but I cannot think,

even now, without a shudder, of the disgust, almost amounting to horror, when any of the heavy, cold worms fell upon my hands, or crawled over my dress. Yet,

"The best laid schemes o' mice an' men
Gang aft a-gley."

And mine were not an exception to the rule; for long before the worms had spun their self-made shrouds, I began to reflect upon the consequences of pursuing my whim to the end, and came to the conclusion that the most signal success that could possibly crown my exertions, would not be the smallest compensation for the waste of the most precious gift of God to man; for time spent in fruitless labor, or selfish amusement, is wasted to all intents and purposes. I therefore hired a person to take charge of my "cocoony," and as soon as the worms had wound themselves up, I reeled off a single skein of silk, to be kept as a talisman against future temptations to misspend my time, and gave the remainder of the cocoons to my young assistants, who, entering into the business with a little experience and a great deal of zeal, realized enough, during the season, to provide a large room, suitably furnished with hurdles, &c., for the following year, and made it a profitable concern for several succeeding summers.

Silk stuffs are no longer sold for their weight in gold, as was the case with those carried from Asia to Rome, to minister to the prodigality and luxury of the cruel and sensual Heliogabalus, who possessed the first dress of the kind that was seen there, and was severely censured for wearing a garment made wholly of silk. They are now comparatively cheap, and I do not grudge to the French and Italian artisans, the profits arising from the manufacture of their beautiful fabrics; but I agree most heartily with your intelligent correspondent, in thinking that we should both be wealthier and happier, if we had not the vanity to desire to shine in imported finery; and that if we must wear European velvets and satins, we might, at the least, furnish their work shops with the raw material.

E. S.

Eutawah, March 8th, 1848.

How to Prevent the Ravages of Moths.—The ravages of the woolen moth may be prevented, by the use of any of the following substances:—Tobacco, camphor, red pepper, turpentine, and perhaps the most agreeable for wearing apparel, a mixture of one ounce of cloves, one ounce of rhubarb, and one ounce of cedar shavings, tied up in a bag, and kept in the box, or drawer. If the substance be dry, scatter it in the folds of the cloth, carpet, blankets, or furs; if liquid, sprinkle it freely in the boxes, or on the cloth or wrapper, laid over and around it.

How to Clean the Chimneys of Lamps.—When the chimneys of lamps become foul, or covered with a white crust, that can neither be washed off, nor removed in the usual way, rub the inside with whiting, and strong vinegar; and then rinse with clean water, and wipe them perfectly dry.

Boys' Department.

AGRICULTURAL CHEMISTRY.—No. 2.

THE atmosphere, you are probably aware, is the great supporter of animal life, though it may not be so apparent to you, it is equally essential to vegetable existence; for it is a well-established fact, that no plant can live, without the presence of atmospheric air. The question now very naturally arises, in what way does air exert such a controlling power.

I cannot answer this, before I have told you of what the atmosphere is composed, as it contains several ingredients, with each of which, it is necessary you should be made familiar. These ingredients, I shall call *constituents*. As the air itself is a gas, its essential constituents must also be gases. By the term *gas*, you are to understand a substance, or body, similar to air. The two principal constituents of the air are called *oxygen* and *nitrogen*. The former derives its name from two Greek words, which signify the *generator* or *producer of an acid*; because it enters into the composition of nearly all acids; the latter is derived from *nitre*, or *nitric acid*, of which it is an important ingredient. About four fifths of the air consists of nitrogen; although the quantity of oxygen is so small, when compared with that of nitrogen, that the former must be considered as the more important agent. Oxygen may, in fact, be regarded as the main actor, in nearly all the great operations of nature. Without its presence, the fires on our hearths would be instantly extinguished. Animal life could not be sustained beyond a few moments without it; neither can vegetables exist where oxygen is not present. This gas also enters into the composition of nearly all earths and minerals. It is never found in nature, however, except in combination with other bodies. (By the term *bodies*, I mean *substances* of any kind). When oxygen is separated, by a chemical process, from any of its combinations, and examined, it is found to be possessed of neither taste nor smell, though when inhaled, it has a remarkably exhilarating effect, and animals confined in pure oxygen soon perish.

Nitrogen is possessed of a very different nature, which seems directly the opposite of its twin sister, oxygen. An important office of nitrogen, appears to be, to dilute the oxygen, as it were, and thus prevent the disastrous consequences which would ensue, if the latter were permitted to exert its mighty energies without restraint. This gas manifests an indifference to all substances, and appears to be rather a spectator than an actor, in this great laboratory of nature. When an animal is placed in pure nitrogen gas, it expires for want of oxygen; or if a lighted candle be immersed in it, for the same reason, it will be immediately extinguished.

Besides the two gases we have just examined, and which form so large a proportion of the mass of the atmosphere, there are others which are of no less consequence, in moving the machinery of nature. One of them is *carbonic acid*. This is found in the air, in the average proportion of about *one part*, to every *two thousand* of atmosphere. Small as this quantity appears to be, we have reason to believe, and in fact it has been proved, that vegetables would cease to grow, and soon perish, if absent

from the air. Carbonic acid gas, is not like oxygen and nitrogen, a *simple*, or *elementary* substance. By these terms, I mean a body which is not combined with any other. This gas is a compound of charcoal (which chemists call carbon), and of oxygen. Carbon is one of the elementary bodies, and enters largely into the composition of all vegetables, as well as of animals. When animal, or vegetable matter is consumed, as wood and hair, the carbon it contains, unites with a certain proportion of the oxygen of the air, and forms the gas called *carbonic acid*. Now, as a given bulk of this gas is much heavier than the same quantity of atmospheric air, you would naturally suppose that it would all settle upon the earth by the force of gravity; but such is not the case. On the contrary, it rises, when formed near the earth, and diffuses itself through the body of the atmosphere, even far above the tops of the highest mountains; for, the *gases, composing the atmosphere, are governed by a law which compels them to mingle together, no matter how great the difference in their densities, or weights, uniting merely by mechanical mixture, and not chemically combined.* This is one of the innumerable illustrations which science affords, of the agency and controlling power of Supreme Wisdom. Were the carbonic acid, which is so widely diffused throughout the vast regions of the air, to be drawn downward by the same force that operates on solid bodies, the immediate suffocation and death of every breathing creature, would be the inevitable result! (a) You have undoubtedly heard of deaths produced by vessels of burning charcoal, in a close sleeping apartment. In such cases, it is the carbonic acid that destroys life. I do not think you ever heard of any one, possessing even a slight knowledge of chemistry, who has been a victim to this suicidal method of procuring warmth. This body is called an acid, because, although existing in a gaseous state, it yet possesses properties peculiar to all acids. I shall say nothing further about it at present, only to advise you to remember what has been said; and not to suppose, that, because there are only about one part of it in two thousand parts of air, that it is deserving of but little notice. One of the peculiarities, or rather beauties of nature's doings, is to produce vast results by simple means and apparently inferior agencies.

There is another constituent, which has not until recently been admitted by chemists, into the family of the gases, of which the atmosphere is composed. This is *ammonia*, a gas which, like carbonic acid, is a compound. It is formed by the union of nitrogen and hydrogen. The former has been described, and the latter I will defer, until I treat of water. Ammonia is a colorless gas, and when in a pure, or concentrated state, it is characterized by a remarkable pungency. Smelling bottles are filled with a solution, or substance, which emits this gas; after once inhaling it, you will not be liable to mistake its odor. The reason why we do not smell ammonia, at all times, in the air, is, because its proportion is so small. It is very soluble in water which will absorb more than 500 times its own bulk, and when thus saturated, it is called *spirits of hartshorn, or aqua ammonia*. As it is always present in rain water, snow, and hail, it is often perceptible to the smell after a shower.

In addition to the constituents already described, *watery vapor* is always present in the air, though in variable proportions. There is usually more vapor in the atmosphere in warm, than in cold, weather. It is produced, as you are probably aware, by the constant evaporation of water from the surface of the earth and the ocean, and from rivers, seas, lakes, &c. When the air becomes saturated, or filled with vapor, a slight cooling causes it to condense in the form of clouds; and when it becomes so much condensed that the air can no longer bear it up, it falls to the earth in the form of rain, hail, or snow. A good illustration of this condensation is seen, when an earthen, or glass vessel is filled with cold water, in a warm atmosphere. The outer surface of the vessel, in becoming cooler than the surrounding air, causes the vapor, which comes in contact with it, to condense, and thus it is covered with a watery film, sometimes called *sweat*. Vapor is not a simple or elementary substance, but is principally composed of two gases, which will be described when I take up the subject of water.

There are numerous other ingredients in the air, which has been called "accidental constituents;" as *nitric acid* (a combination of nitrogen and oxygen), which is always present after a thunder shower; *dust*, after a long continuance of dry weather; the *vapor of sea water* and its constituents, near the sea coast; the *odor* of trees, plants, flowers, or fruits; and some compounds of *carbon, phosphorus, and sulphur*, with *hydrogen*, which are found in the vicinity of marshes. In my next letter I shall treat of water.

J. MCKINSTRY.

Greenport, Columbia Co., N. Y.

(a) Were the gases of the atmosphere separately to obey the natural law of gravitation, like all other bodies with which we are acquainted, the ocean and lower parts of the earth would be covered with a stratum of carbonic acid gas, 15 or 20 feet in thickness. The oxygen and nitrogen, too, instead of being uniformly mixed throughout the whole atmosphere, as at present, would form two immense layers, of unequal thickness, arranged in the order of their densities, the oxygen below and the nitrogen above. In such a state of things, animal and vegetable existence would be out of the question; and all the phenomena of combustion and oxydation, would be increased, over the chief part of the earth's surface, in ten-fold power.

A LESSON IN ENGINEERING.—"My son," said an engineer, "come hither; I want to show you something."

"Well, father, what is it?"

"Do you see this kettle bail?"

"Yes."

"There"—standing it up perpendicularly on the table—"do you see that?"

"Yes, sir."

"Well, then," laying it down upon the table, "do you see that? Well, it is no farther round that bail as it lies flat, than it is over it when it stands up. So, when you come to a hill, remember it may be no farther around the base than over the summit, while it is a great deal easier."—*Exchange Paper.*

FOREIGN AGRICULTURAL NEWS.

By the arrival of the Steamer *Hibernia*, we are in receipt of our foreign journals to the 25th of March.

MARKETS.—*Ashes* no change. *Cotton*, a decline from $\frac{1}{4}d.$ to $\frac{1}{2}d.$ per lb. *Beef and Pork*, a slight advance. *Lard*, heavy sales at a trifling decline. *Wheat*, an advance of 1s. to 2s. per quarter. *Flour*, a corresponding advance. *Indian Meal*, a little lower. *Cheese*, in good demand. *Naval Stores*, firm. *Rice*, *Tobacco*, and *Wool*, dull.

Money continues abundant at a low interest.

The *Weather* had been favorable thus far, and the spring crops were looking well.

American Ice in England.—The packet ship, *Washington Irving*, arrived at Liverpool, from Boston, with 537 tons of American ice, being the first cargo of the season.

American Hops.—A vessel from Boston, arrived in Liverpool lately, bringing fifty bales of hops of United States growth. This is the largest importation of this particular article of merchandise, which has yet taken place, into this country from America.

Poisonous Pork.—A captain of a vessel, from Constantinople to Wexford, and several of his crew, died from eating pork preserved in a leaden cistern.

Importation of Gutta Percha.—The importations of gutta percha continue to take place in large quantities. A vessel just arrived from Singapore has brought 1,386 packages and 5,084 blocks of this article.

Planting Trees on Railway Embankments.—It has been proposed to plant railway embankments with larch trees, which would supply the sleepers required from time to time, and would also return a profit from the thinnings, &c., which might be sold for hop poles or for other purposes.

Glass Water Taps.—Brass cocks always become leaky sooner or later, according to the corrosive quality of the liquid they transmit. Could not glass be substituted and adapted by the intervention of wood, gutta percha, cement, or some other material?

Failure of Liebig's Manure, Guano, Ammonia, &c.—At a late meeting of the Royal Agricultural Society of England, an interesting discussion took place on the effects of Liebig's "Patent Manure," on the wheat crop; the time of using guano, and the comparative value of ammoniacal and mineral manures. From the evidence adduced, it would seem that Liebig's manure, when applied to the wheat crop, proved a failure, under circumstances where nitrogenous or ammoniacal matter was accidentally absent; that there was a decided advantage, in using guano on heavy soils, in the autumn, at the time of preparation for sowing (when the wheat is not sown earlier than November); and the strong corroboration afforded by the views of Mr. Lawes, in the last number of the Journal of the Royal Agricultural Society, "that nitrogenous manures are of the first importance as far as the wheat crop is concerned; and that if these are deficient, mineral manures cannot, by any means, supply their place."

Tea Culture in India.—In an account of the cultivation and manufacture of tea in China, recently published in London, Mr. Ball, the author, after an official residence in that country, states that he has lately seen two samples of tea, one black and the other green, made at Kamaon, in the upper provinces of India. They were both deficient in strength and flavor, but still excellent teas. The Hyson tea, especially, would find a good and ready sale in India and England. And yet it is certain that these teas are all prepared from the southern species of thea, which is admitted to be inferior in quality to that of the more northern Chinese provinces. Such being the important result of the Himalayan experiments in tea cul-

tivation, it will excite no surprise in our readers to learn that, upon the recommendation of Lord Hardinge, the Court of Directors have authorised the outlay of £10,000 a year, in extending and improving their plantations.

Thick and Thin Sowing.—In a Prize Essay on Thin and Thick Sowing, lately written by Mr. Mathew M. Milburn, we extract the following, which has been deduced from well-tried experiments:—

"1. That thin sowing, and especially dibbling, is a very unsafe process, as regards quantity per acre of produce. 2. That despite hoeing, where it can be practised, it encourages weeds. 3. That it grows coarser produce, and of less value to the miller. 4. That it does not ripen so early. 5. That on a sandy soil, very dry, and not productive, it was unsuccessful in the writer's own experience. 6. That on gravelly clay, with a higher elevation, it was unsuccessful with Mr. Watson's experiment. 7. That on very productive land, in a rich state, it was also unsuccessful.

Mode of Disintegrating Bones without the Aid of Sulphuric Acid.—Mr. Miles, of the Royal Agricultural Society, has discovered a process for preparing bones for manure, without the use of acids, as described by Mr. Pusey in the last part of the Society's Journal; that instead of sand, ashes, or earth, it was a great improvement to use sawdust as the material for covering up the heaps; double the amount of heat being evolved, and the disintegration being effected much more rapidly and effectually. He piled up the bones into a heap, which he moistened well with water, and then covered over to the depth of 2 or 3 inches with sawdust, a process by which not only the bones themselves were rapidly converted into manure, but the sawdust itself also. By this process, however, the decomposition of much ammonia would take place, and escape in a volatile state, as it is developed, and be lost.

Mode of Mixing Bone Dust with Sulphuric Acid.—Lay 80 bushels of bone dust in a conical heap; pour on water till it begins to run off at the base; leave it for a couple of days; then spread it abroad somewhat, leaving a raised rim (which should be trampled firm), and a basin-shaped cavity; pour on more water till it will no longer remain in the heap; and then slowly pour about 1,000 lbs. of sulphuric acid over the heap. Turf ashes (about 300 bushels), may, with advantage, have been previously laid around the edge of the heap. When the heat has somewhat subsided, mix the bone dust together again, into a conical heap; cover it with the ashes; and leave it for a few weeks. The whole may then be mixed with the dry ashes, and will be ready for drilling. It will suffice for from 10 to 20 acres.—*Agricultural Gazette*.

Salt not good for Barn-door Fowls.—Gallinaceous birds, reared by the sea side, or on the banks of a salt-water river, avoid the saline stream, and search for food and drink as far inland as they can range. I know not how common salt could be administered to them. It is more than doubtful whether the hens would pick it from the ground in its crystalline form, and it would be difficult to distribute it in equal doses by means of bread, &c., soaked in salt water. The chances are, that some of the hens would be poisoned. Pigeons, I think, are the only domesticated birds to whose health salt is beneficial, and they prefer it in combination with animalized matter; the more offensive it is to our senses, the more agreeable it appears to be to theirs. Hens, too, are great pickers of bones. I have seen one devouring the flesh, and cleaning the skeleton of her dead husband, doubtless on the native Australian principle of respect and affection for the deceased. Salt, in a liquid state, acts as an emetic with fowls, as with dogs.—*Ibid.*

Editor's Table.

RETAIL PROVISION MARKET.—Our readers will find a new, and as we think, a highly useful and interesting addition to our wholesale Price Current, at page 165, of this number. If it finds favor with them, we shall continue it throughout the year.

STATE OF VEGETATION IN NEW YORK.—On the 1st of April, the weeping willow burst its buds, and on the 15th was nearly in full leaf. From the 8th to the 12th, the apricot, peach, white poplar, elm, and red-flowered maple, were in bloom. On the 11th, a horse chestnut, in Trinity Church Yard, was in leaf. On the 7th, the lilac, privet, and larch were beginning to unfold their leaves.

LOSS OF COL. SHERWOOD'S BARN BY FIRE.—We learn with much regret, that the large barn and ample range of stables attached to it, of Col. J. M. Sherwood, of Auburn, took fire the past month, and were totally consumed, together with a considerable quantity of hay, grain, &c. As this happened in the afternoon, when nearly all the stock were turned out in the yards, to take fresh air, they were all saved. Col. S. had just completed an ample range for feeding upwards of one hundred head of fat cattle, and as his stock accommodations otherwise were quite ample, he suffers a great loss, which we the more regret, as he is one of the most enterprising farmers in western New York, and has done much for the past ten years in rearing and diffusing improved stock of all kinds in that section of the country. We sincerely hope this loss may be made good to him, shortly, in some way.

THE NORMAN HORSE, LOUIS-PHILIPPE.—We had the pleasure of examining this superb young stud, accompanied by his owner, Mr. Robert B. Howland, on the 15th of March last, when on his way from New Jersey to Union Springs, Cayuga county, N. Y., where he is to stand, for the purposes of breeding, during the ensuing season. In our next number, we hope to be able to give his pedigree and history, illustrated by a portrait.

STILTON CHEESE.—At a late meeting of the Executive Committee, of the New York State Agricultural Society, a sample of "Stilton cheese" was received from L. F. Allen, President of the society, made by Mr. Henry Parsons, of Guelph, Canada West, which, in the opinion of said committee, was of a superior quality. We have received some from the same source, and had it tried among our friends, who all agree that it is equal to any they have ever imported direct from Europe.

A NOVEL SIGHT.—A few weeks ago, our attention was drawn to a crowd in this city, which had gathered around a wagon load of common land tortoises, some 600 or 700 in number, varying in size from the bigness of a boy's hand up to that of a horse's foot. On inquiry, as to the uses to which they were to be applied, we found that they were chiefly purchased by boys, at 12½ to 25 cents each, to be kept in gardens and yards, as pets, and for frightening off rats and devouring insects and worms. In winter, they are taken into the cellar, where they live in a torpid state, and are returned into the garden again in the spring.

THE PICTORIAL HISTORY OF ENGLAND; being a History of the People, as well as of the Kingdom. Illustrated with Several Hundred Wood Cuts of Monumental Records; Coins; Civil and Military Costume; Domestic Buildings, Furniture, and Ornaments; Cathedrals and Other Great Works of Architecture; Sports and Other Illustrations of Manners; Mechanical Inventions; Portraits of Kings and Queens; and Remarkable Historical Scenes. By George L. Craik and Charles Macfarlane assisted by numerous Contributors. New York: Harper and Brothers. The

fourth and last volume of this splendid work has been issued, which completes the series. It is comprised in four large octavo volumes, of about 875 pages each, neatly got up, handsomely printed, and may be had at the bookstores for \$14. This may seem rather an extravagant price to some; but when they consider the immense expense bestowed upon its preparation (\$250,000), its intrinsic worth as an authentic record; and, being as it is, the most valuable, and the only history of England ever published, that is adapted to the taste and wants of the American people, it cannot be regarded otherwise than cheap.

ADVENTURES IN MEXICO AND THE ROCKY MOUNTAINS. By George F. Ruxton, Member of the Royal Geographical Society, at London. New York: Harper and Brothers, pp. 312, 12mo. Price 75 cents. Those who wish to know something of the soil, climate, and inhabitants of the provinces which divide Mexico from Arkansas, forming, also, an eastern frontier to California, we would advise to read this interesting book. Mr. Ruxton rode from Vera Cruz, through Mexico, soon after the commencement of the late war, wintering on the Rocky Mountains, and extending his journey, in the spring, to California; and thence to New York, by the way of the great lakes. This work abounds in the wildest adventures, often terrific and dangerous in the extreme, and conveys, in a graphic manner, a vast amount of useful information, not to be found in any other publication.

ANALYSIS OF THE CORN PLANT.—We are happy to learn that Mr. R. L. Colt, of Paterson, N. J., inspired by the love of his country's good, has employed Dr. C. T. Jackson, of Boston, to make complete analyses of several varieties of Indian corn, including the stalk, leaves, shucks, kernel, cob, &c., with the view of ascertaining their comparative value as food for stock.

TRANSPLANTING EVERGREENS.—Evergreens, if transplanted in dry, bright weather, are apt to die, because the action of dry air and bright light upon their leaves robs them of their fluids faster than the wounded roots can replace them. But, if transplanted in damp, cloudy weather, they are saved from this risk, and have time to renew their roots before the hour of danger. Hence, the spring of the year, in our climate, is regarded as the proper time for transplanting; for, generally, we have more or less wet weather during the months of April and May.

TRANSACTIONS OF THE AGRICULTURAL SOCIETIES OF MASSACHUSETTS, for 1847, have been received, an extended notice of which, will appear in our next.

OATS WANTED.—A day or two since an animal having the appearance of being a horse, but which looked like a skeleton, covered with a collapsed hide, was observed by a wag of a boy, who pasted a plaster upon its side, on which was daubed in large letters, "Wanted, a peck of oats. Inquire within."—*Exchange Paper.*

RECIPE FOR THE GALLOPING CONSUMPTION.—In Varlo's "New System of Husbandry," published in Philadelphia, in 1785, the following is stated to be an infallible remedy for the galloping consumption:—Take half a pound of raisins of the sun, stoned; a quarter of a pound of figs; a quarter of a pound of honey; half an ounce of Lucatelli's balsam; half an ounce of powder of steel; half an ounce of flour of elecampane; a grated nutmeg; one pound of double-refined sugar, pounded; shred and pound all these in a mortar; pour into it a pint of sallet oil by degrees, eat a bit of it, four times a day, the bigness of a nutmeg; every morning drink a glass of old Malaga sack, with the yolk of a new-laid egg, and as much flour of brimstone as will lie upon a six-pence; the next morning as much flour of elecampane, alternately; and if this will not cure you, the Lord have mercy upon you. [!!]

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, APRIL 15, 1848.

ASHES, Pots,	per 100 lbs.	\$5 50	to	\$5 62
Pearls,	do.	7 03	"	7 06
BALE ROPE,	lb.	6	"	8
BARK, Quercitron,	ton,	30 00	"	31 00
BEANS, White,	bush.	75	"	1 38
BEESWAX, Am. Yellow,	lb.	22	"	25
BOLT ROPE,	do.	11	"	12 12
BONES, ground,	bush.	45	"	55
BRISTLES, American,	lb.	25	"	65
BUTTER, Table,	do.	15	"	25
Shipping,	do.	9	"	15
CANDLES, Mould, Tallow,	do.	12	"	14
Sperm,	do.	25	"	38
Stearic,	do.	20	"	25
CHEESE,	do.	5	"	10
COAL, Anthracite,	2000 lbs.	5 00	"	6 00
CORDAGE, American,	lb.	11	"	13
COTTON,	do.	5	"	9
COTTON BAGGING, Amer. hemp,	yard,	15	"	16
FEATHERS,	lb.	30	"	40
FLAX, American,	do.	9	"	10
FLOWER, Northern, Southern and Western,	bbl.	6 00	"	6 31
Fancy,	do.	6 50	"	7 00
Richmond City Mills,	do.	7 44	"	7 50
Buckwheat,	do.	—	"	—
Rye,	do.	3 50	"	3 75
GRAIN—Wheat, Western,	bush.	1 35	"	1 40
Southern,	do.	1 12	"	1 25
Rye,	do.	75	"	76
Corn, Northern,	do.	52	"	54
Southern,	do.	50	"	53
Barley,	do.	85	"	90
Oats, Northern,	do.	48	"	50
Southern,	do.	40	"	45
GUANO,	do.	2 50	"	3 00
HAY, in bales,	100 lbs.	50	"	56
HEMP, Russia, clean,	ton.	225 00	"	235 00
American, water-rotted,	do.	160 00	"	220 00
American, dew-rotted,	do.	140 00	"	200 00
HIDES, Dry Southern,	do.	7	"	9
HOPS,	lb.	5	"	8
HORNS,	100.	2 00	"	10 00
LEAD, pig,	do.	4 25	"	4 50
Pipes for Pumps, &c.	lb.	6	"	7
MEAL, Corn,	bbl.	2 31	"	2 62
Corn,	hhds.	13 00	"	13 12
MOLASSES, New Orleans,	gal.	25	"	27
MUSTARD, American,	lb.	16	"	31
NAVAL STORES—Tar,	bbl.	1 75	"	2 00
Pitch,	do.	81	"	1 00
Rosin,	do.	75	"	85
Turpentine,	do.	2 50	"	2 75
Spirits Turpentine, Southern,	gal.	35	"	38
OIL, Linseed, American,	do.	59	"	60
Castor,	do.	1 50	"	1 60
Lard,	do.	70	"	75
OIL CAKE,	100 lbs.	1 25	"	1 50
PEAS, Field,	bush.	1 00	"	1 62
Black eyed, 2 do.	do.	2 00	"	—
PLASTER OF PARIS,	ton.	2 25	"	3 00
Ground, in bbls., of 300 lbs.	1 12	"	1 25	
PROVISIONS—Beef, Mess,	bbl.	8 00	"	11 00
Prime,	do.	5 25	"	7 50
Smoked,	lb.	7	"	11
Rounds, in pickle,	do.	5	"	7
Pork, Mess,	bbl.	9 75	"	12 00
Prime,	do.	6 50	"	9 00
Lard,	lb.	6½	"	8
Bacon sides, Smoked,	do.	6	"	8
In pickle,	do.	5	"	7
Hams, Smoked,	do.	8	"	13
Pickled,	do.	6	"	10
Shoulders, Smoked,	do.	6	"	9
Pickled,	do.	5	"	7
RICE,	100 lbs.	5 00	"	4 00
SALT,	sack,	1 45	"	1 55
Common,	bush.	20	"	35
SEEDS—Clover,	lb.	6	"	8
Timothy,	bush.	3 00	"	4 00
Flax, clean,	do.	1 50	"	1 55
rough,	do.	1 40	"	1 45
SODA, Ash, cont'd 80 per cent. soda,	lb.	3	"	—
Sulphate Soda, ground,	do.	1	"	—
SUGAR, New Orleans,	do.	3 ½	"	6
SUMAC, American,	ton.	35 00	"	37 00
TALLOW,	lb.	9	"	10
TOBACCO,	do.	3	"	9
WHISKEY, American,	gal.	22	"	24
WOOLS, Saxony,	lb.	35	"	60
Merino,	do.	30	"	35
Half blood,	do.	20	"	25
Common do.	18	"	20	

NEW YORK RETAIL PROVISION MARKET.

Meats.—Beef from 7 to 15 cents per lb.; Pork and Mutton, 8 to 12 cts.; Veal, 4 to 8 cts.; Hams 8 to 14 cts.; Bacon, 7 to 12 cts. **Poultry and Eggs.**—Turkeys from 12½ to 18 cts. per lb.; Ducks, 60 cents to \$1 per pair; Chickens, 50 to 75 cts. per pair; Pigeons, 10 to 12½ cts. each; Eggs, from 10 to 13 cts. per dozen.

Dairy Products.—Butter from 20 to 25 cts. per lb.; Cheese, 7 to 13 cents; Milk, 3 to 6 cts. per quart.

Fish, &c.—Shad from 13 to 25 cents each; Cod, 3 cts. per lb.; Halibut, 5 cts.; Lobsters, 5 cts. per lb.; Oysters, 50 to \$1 per 100; Clams, 10 to 13 cents per 100.

Ice, 25 cts. per 100 lbs.

Fruit and Nuts.—Swede Apples from \$2 to \$2.50 per barrel; Spitzenbergs (red), \$2.50; do (white), \$3.50 to \$4; Seek-no-fathers, \$2 to \$3; R. I. Greenings, \$2 to \$2.25; Newtown Pippins, \$2 to \$3; Roxbury Russets, \$2; Apples in small quantities, from 25 to 50 cents per half peck; Cranberries from \$8 to \$10 per bbl.; or 75 cents per half peck; Hickory Nuts, \$3 per bushel; Peanuts, \$1.25 to \$1.38; Lemons and Oranges, 12 to 25 cts. per doz.; Pine Apples, 18 to 25 cts. each.

Vegetables.—Carter and Mercer Potatoes from 88 cts. to \$1 per bushel; Flesh-colored do, 50 cts.; Onions (red), 75 cents per bushel; do (yellow), \$1; do (silver-skinned), \$1.50; Parsnips and Turnips, 35 to 50 cts.; Green Peas (southern), from 75 cts. to \$1 per half peck; Tomatos (Havana), \$1.50 per half peck; Cucumbers, from 25 to 30 cts. each; Squashes (West India), from 50 to 75 cts.; Cabbages, from 4 to 10 cts. per head; Spinach, \$1 per bbl.; Salads, \$1 per dozen.

REMARKS.—Quercitron Bark, Cotton, Hay, Flour, Meal, Rye, and Corn, have undergone some depression since our last. Wheat remains the same, while Barley has risen. Lard, a slight decline. Provisions steady.

Money has become more plenty, though considerable paper is still discounted in Wall street at 1 to 1½ per cent. per month.

The Weather is warm and showery, and vegetation from 12 to 15 days more forward than last year at this time. Our accounts of the damage to the wheat crop by winter kill are conflicting. From some quarters, our correspondents report, that the favorable spring weather has quite restored many a field which did not promise half a crop, while others say, their winter grain is not only past hope, and the spring sowing has come up poorly. It is too early, however, to form an opinion about this crop. Not so much corn will be planted this year as last, at the north and west; at the south the very low price of cotton will induce an increased planting. We trust more attention will be given to potatoes, for they have been enormously high all the past season, and of an inferior quality. We hope the farmers will make faithful experiments on this crop with lime, charcoal, and ashes, as Mr. Doolittle recommends on page 155, of this number.

To CORRESPONDENTS.—Communications have been received from Wm. Bacon, J. McKinstry, E. S., R. L. Allen, A. C. Kason, B. P. Johnson, M. W. Phillips, E. Townley, and Reviewer.

WATER RAMS.—Several Correspondents.—See our advertisement, on page 168; also, an account of these machines at p. 235, of our fifth volume.

Rearing Poultry.—Jonathan Scribe, of Va.—Build a good poultry house provided with boxes of straw, and your hens will not be inclined to "steal their nests." If your cat and dog destroy your eggs, you have a remedy by cutting off their tails close to their ears. "Take it coolly. Better luck next time."

ACKNOWLEDGMENTS.—List of Premiums offered by the New York State Agricultural Society, to be awarded at their Fair and Show, to be held at Buffalo, in September next; List of Premiums offered by the Rhode Island Society for the Encouragement of Domestic Industry, to be awarded at their Exhibition at Pawtuxet, on the 4th and 5th of October next; List of Premiums offered by the Middlesex County (Ct.) Agricultural Society, to be awarded at their next show at Middletown, on the 4th to 7th of October next; Mr. Marsh's Address, delivered before the Agricultural Society of Rutland County, Vt. in September, 1847; Col. Johnson's Address before the Cayuga County (N. Y.) Agricultural Society, in September last; Agricultural Reports made by the Standing Committees of the R. I. Society for the Encouragement of Domestic Industry, for the years 1847-8; The Railroad Mania and Review of the Bank of the State of South Carolina; from Governor Hammond, of Silverton, N. C.

IMPROVED VARIETY OF RICE CORN FOR PLANTING.

FOR Sale, a few bushels of Improved Rice Corn, from Lake Winnipisogee, New Hampshire, very productive in its yield, and ripening early. Price 25 cents per quart.

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February 1st, 1848.

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The Agriculturist treats of every description of domestic animals and poultry; their characteristics, breeds, the best and the worst; their advantages and disadvantages; their mode of breeding, feeding, and rearing; their uses, profits, and management. It treats of all cultivated crops, including fruits, shrubbery, and flowers; the best seeds, mode of planting, cultivating, gathering, and preparing for markets; the general principles of vegetation and the laws of vegetable life. It describes the principles of mechanics as applied to machinery used by farmers and planters; the best machinery and implements for agriculture, their uses and the particular superiority of some over others, and their adaptedness for particular purposes. It gives the latest improvements in those implements which may have been made, and suggests others; tells where they are to be found and the benefits that will follow from their use. It specifies new objects of cultivation, and how they may be better prepared for a profitable market and more general use.

This is the great design and scope of the *Agriculturist*; and these are the paramount objects of interests throughout America. No country can ever enjoy solid prosperity unless an enlightened system of agriculture is practised among its people, and this cannot be done except by the aid of those works which are written to teach it. Let all aid, then, to spread them broadcast throughout the land. It is the duty of every good citizen to do this—nothing equal to it can be done to benefit the country.

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A prospectus has been issued (which can be had at the office of the Company, or any of its agents), explanatory of the terms and conditions of insurance.

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AGRICULTURAL IMPLEMENTS AND SEEDS.

RUGGLES, NOURSE & MASON,

Inventors and Manufacturers of the Genuine Eagle Plow,

WOULD inform the public, that their hitherto unequalled stock of Agricultural and Horticultural Tools, Machines and Seeds, at Quincy-Hall Agricultural Warehouse and Seed Store (over the Quincy Market), South Market street, Boston, Mass., is very much enlarged and improved in quantity and variety.

Within the past year they have done much to improve their *Plow Department* by constructing more patterns of Eagle, Eagle Self-Sharpening, Hill-Side, and Sub-Soil Plows, embracing additional sizes of improved forms and fixtures.

At the most full, perfect trial and investigation of plows ever had in this country, held in Essex Co., Mass., the Judging Committee, in speaking of the Improved Eagle Plow, to which they unanimously awarded the highest premium, say:—"As near as we can ascertain, this Plow combines all the good qualities manifested in all the others, with some peculiar to itself; and further, our attention was called to the quality of the castings on the Plows of Ruggles & Co., their finish and durability. Their appearance is certainly more perfect than anything we have elsewhere seen. The process of Chilling the Point, the entire edge of the share and flange or base of the landside, gives a permanence and durability to the work that renders it of a decidedly superior character, and we think there is no hazard in saying that the value of the parts thus made is more than doubled by the process."

The following is a copy of their table showing the comparative amount of power in pounds, required to operate the different plows:—

Medium-Sized Plows.

Winslow's	of Danvers,	463 lbs.
Ruggles & Co's.	of Worcester,	412 "
Prouty & Co's.	of Boston,	425 "
Howard's,	of Hingham,	412 "

Large-Sized Plows.

Winslow's	of Danvers,	512 lbs.
Ruggles & Co's.	Eagle, of Worcester,	425 "
Prouty & Co's.	Sod A. of Boston,	487 "
Howard's,	of Hingham,	450 "

In 1846 the first premiums were awarded to competitors who used Plows made by Ruggles, Nourse, and Mason, at Plowing Matches in the following named counties, to wit: Essex, Middlesex, Worcester, Hampshire, and Berkshire, in Mass.; Orleans and Windham, Vt.; Kennebec, Me.; Litchfield and Hartford, Conn.; Prince George's and Montgomery counties, Md.

At the Cattle Shows held in 1847, the following Premiums were won by plowmen with Plows manufactured by Ruggles, Nourse & Mason:—

ESSEX COUNTY, MASS.

Single-Team,	1st Premium,	Plow, Eagle No. 2.
"	2d Premium,	" Eagle No. 2.
"	3d Premium,	" Eagle No. 2.
Double-Team,	1st Premium,	" Eagle No. 25.
"	2d Premium,	" Eagle Sward B.
"	3d Premium,	" Eagle No. 25.
Horse-Team,	1st Premium,	" Eagle No. 2.
"	2d Premium,	" Eagle No. 2.
"	3d Premium,	" Eagle No. 2.
Sub-Soiling,	1st Premium,	" Eagle S. S. No. 1.

MIDDLESEX COUNTY, MASS.

Single-Team,	1st Premium,	Plow, Eagle No. 9.
Double-Team,	1st Premium,	do Eagle No. 20.
do	do 2d Premium,	do Eagle No. 20.
do	do 4th Premium,	do Eagle No. 25.
Horse-Team,	1st Premium,	do Eagle No. 2

BRISTOL COUNTY, MASS.

Single-Team,	1st Premium,	Plow, Sward C.
do	do 2d Premium,	do Eagle No. .
do	do 4th Premium,	do Eagle No. 2.
Double-Team,	1st Premium,	do Eagle No. 20.

BARNSTABLE COUNTY, MASS.

Single-Team,	1st Premium,	Plow, Eagle No. 2.
Double-Team,	1st Premium,	do Eagle No. 2.
do	do 2d Premium,	do Eagle No. 2.
Horse-Team,	1st Premium,	do Self-Sh'ng No. 3.

HAMPDEN COUNTY, MASS.

Single-Team,	1st Premium,	Plow, Eagle No. 2.
do	do 2d Premium,	do Eagle No. 1.
do	do 6th Premium,	do Eagle No. 2.

BERKSHIRE COUNTY, MASS.

1st Premium, and 7 others, Plows, Eagle Nos. 1. and 2.
1st Premium for the best Plows.

HAMPSHIRE COUNTY, MASS.

Single-Team,	1st Premium,	Plow, Eagle No. 2.
only, used.	7th Premium	do Eagle No. 2.
	8th Premium,	do Eagle No. 2.

MERRIMACK COUNTY, N. H.

Single-Team, }	1st Premium,	Plow, Eagle No. 2.
only, used.	2d Premium,	do Eagle No. 20.
	3d Premium,	do Eagle No. 2.

WASHINGTON COUNTY, VT.

1st Premium, Plow, Eagle No. 2.

HARTFORD COUNTY, CONN.

1st Premium, Plow, Eagle No. 25.

2d Premium, do Eagle No. 2.

3d Premium, do Sward D.

ROCHESTER, MONROE CO., N. Y.

Horse-Team, }	1st Premium	Flow, Sward C.
only, used.	2d. Premium,	do Eagle No. 25.

MONTGOMERY COUNTY, MD.

1st Premium for Three-Horse size,	Eagle No. 25.
1st Premium One	do do Self-Sh'p'ner No. 1.

They have also constructed a series of new patterns of Plows of various sizes and forms (some with wrought mould plates, shares, or points) expressly calculated for the different kinds and methods of cultivation practiced in the Southern States and which embrace all the alterations which a long and thorough investigation, and more extended acquaintance with southern culture has suggested, to render peculiarly adapted to the planters.

As all of the most important articles in their assortment are manufactured by themselves, and especially for their own trade at their extensive manufactory at WORCESTER, under their own personal supervision, and being importers direct, of all necessary foreign articles in the line, they are enabled to offer an unusual variety of implements of admitted superiority, and on the most advantageous terms.

Their stock of seeds is raised specially for their trade by reliable, and experienced American and European growers, and are warranted fresh and true to their names.

Their prices being uniform, purchasers can rely on having all orders executed on as favorable terms, and promptly, as though they were personally present.

Dealers supplied on the most advantageous and inducing terms.

A. B. Allen & Co., N. York City; H. L. Emery, Albany N. Y.; and R. L. Allen, N. Orleans, agents. Other houses and dealers at most of the principal cities and towns through the country keep our plows and other implements from this establishment.

* * As it is impracticable here, to give a detailed list of articles embraced in so great a variety, the proprietors propose to forward (gratis) to persons requesting them, by mail, or otherwise, descriptive catalogues of implements and seeds, of nearly 100 pages, embellished with cuts of tools, and containing brief directions for sowing, planting, and culture, with rules for the application of guano, plaster, and bone dust; and remarks on soils and plowing, with general observations, list of Agricultural and Horticultural Publications, &c., &c.

Feb. 10th, 1848.

FINE WATCHES AND CLOCKS.

THE subscribers take this method to inform their friends and the public, that they have received, by late arrivals from Europe, a large invoice of FINE WATCHES, consisting of CHRONOMETERS, DUPLEX, LEVER, and HORIZONTAL ESCAPEMENTS, together with a few WATCHES of an entirely DIFFERENT CONSTRUCTION from any that have ever been offered for sale in this country.

In recommending the above-named WATCHES to the public, the subscribers hazard nothing in saying that, without any exception, they are the finest and most perfect pieces of mechanism ever manufactured. The performance of those they have already sold in this city has equalled their most sanguine expectations.

In connection with the above, they have a large assortment of WATCHES OF EVERY VARIETY, STYLE, AND PRICE, together with an extensive assortment of JEWELRY, SILVER WARE, COUNTING-HOUSE CLOCKS, &c. For sale at prices which cannot fail to prove acceptable to the purchaser.

SAMUEL HAMMOND & CO.,
Importers and Repairers of Watches,
44 Merchants' Exchange, William st. N. Y.

AYRSHIRE CATTLE.

THREE Cows, one bull calf, and one yearling bull of the celebrated Ayrshire cattle for sale. The cows were selected from the best herds in Scotland and imported by their present owner at a heavy cost. The bulls are out of the above cows by an imported bull. They may be seen on the owner's farm in Connecticut. For further particulars apply to A. B. ALLEN, & CO., N. Y.

HORN SHAVINGS.

HORN SHAVINGS for sale at two cents per lb. They are considered more fertilizing than bone dust.

A. B. ALLEN & CO., 191 Water street, N. Y.

AGRICULTURAL IMPLEMENTS FOR SALE.

SEED SOWERS of different kinds, operated by hand, and arranged for sowing all sorts of garden and field seeds in drills. They sow with equal accuracy, and with much greater rapidity than by hand. Prices, \$4.50 to \$15

Bachelor's Corn Planter, operated by a single horse. This machine can be regulated to drop the corn in hills from one foot to four feet apart. Price \$16.

One-Horse Cultivators of various kinds. Prices, \$5 to \$8.

Hand Cultivators for garden work. These also do well for field work, and effect quite a saving of labor. Price \$3.

Cast-Iron Rollers, in sections one foot long, 18 inches in diameter, weighing 85 lbs. per section; sections of the same length, two feet in diameter, weighing 160 lbs. per section. These can be strung on an iron shaft, two inches in diameter, upon which they turn. They are fitted up for hand or horse power, and may be made from one to eight feet or more in length. The superiority of a roller, made of several sections is very great. Prices, 4 to 5 cents per lb. Fittings extra.

Square and Triangular Harrows of various improved kinds. Prices, \$5 to \$15.

Plows and other agricultural implements, a large and complete assortment.

A Descriptive Catalogue of the above, of 100 pages with numerous illustrations, will be sent gratis to all who apply for it, post paid.

A. B. ALLEN & CO., 189 and 191 Water street, N. Y.

IMPROVED STOCK FOR SALE.

THE Subscriber will take orders and execute them in the best possible manner, for

Durham, Hereford, Devon, and Ayrshire Cattle. Prices from \$50 to \$300 each, according to age and quality.

Saxon, Merino, Southdown, Leicester, and Cotswold Sheep. Prices from \$10 to \$100 each.

China, Sussex, Berkshire, and Lincoln Pigs. The latter are of recent importation, color white, and very large. Price per pair, at 3 months old, caged and delivered on ship board, for the first-mentioned breeds, \$29; for the Lincolns, \$30.

All orders must be accompanied with the cash.

SAMUEL ALLEN, 189 Water street, N. Y.

FANNING MILLS.

AGRICULTURAL Merchants and Farmers are respectfully informed that the subscriber keeps constantly on hand a supply of five different sizes of his celebrated Fanning Mills, which he offers for sale on the most accommodating terms. These Mills are made of the best materials, and finished in good style, and warranted to clean grain as well and as fast as any others now in use.

TUNIS E. HENDRICKSON,

Jamaica, Long Island.

A. B. Allen & Co., New York, Wm. T. Terry, Southold, Samuel W. Young, Orient, Agents.

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LEAD PIPES FOR HYDRANTS, PUMPS, &c.

Of $\frac{3}{8}$ inch calibre, weighing from 1 lb. 8 oz. to 3 lbs. 8 oz. per yd.	
" $\frac{3}{8}$ do	do 1" 14 do 6 do 6 do
" $\frac{5}{8}$ do	do 2" 8 do 8 do 4 do
" $\frac{3}{4}$ do	do 3" 8 do 10 do 8 do
" 1 do	do 5" 10 do 14 do do
" 1 $\frac{1}{4}$ do	do 6" 12 do 17 do 8 do
" 1 $\frac{1}{2}$ do	do 11" do 19 do do
" 2 do	do 16" 12 do 27 do do
" 2 $\frac{1}{2}$ do	do 23" 8 do 50 do do
" 3 do	do 28" do 59 do do
" 3 $\frac{1}{2}$ do	do 45" do 80 do do
" 4 do	do 49" do 90 do do
" 4 do	Water Pipe 15 do 14 do
" 4 $\frac{1}{2}$ do	do " 17 do 4 do
" 5 do	do " 34 do do

Price of the above pipes 6 to 7 cents per lb.

A. B. ALLEN & CO., 189 and 191 Water st., N. Y.

WATER RAMS.

FOR SALE. Superior Water Rams, which, if applied to a large or small stream of water where there is *one or more* feet fall, a portion of said stream may be forced up, by its own power, to a height of 50 or 100 feet. The quantity of water raised will vary according to the height of the fall, the size of the stream, and the capacity of the ram. For instance, any one possessing a spring, or stream of water, that will discharge 8 or 10 gallons per minute, and can stop up the stream by a dam, so as to make a fall of 8 or 10 feet, by means of one of these machines, a constant stream, from half-inch pipe, can be delivered at an elevation of 85 feet. Prices from \$12 to \$16—pipe extra. For prices of lead pipe, see advertisement above.

Take Particular Notice.—Persons making application for these rams, by mail, or otherwise, are requested to name the size of the stream, or quantity of water running in it per minute, the amount of the fall they are able to produce, the height the water is desired to be raised, and the distance it is wished to be conveyed.

my A. B. ALLEN & CO., 191 Water street, N. Y.

PURE BLOOD MERINO SHEEP FOR SALE.

THE subscriber being about to retire from the farming business, offers for sale his entire stock of Merino sheep which have been bred with the greatest care from the best flocks in the country.

Of these, 75 are ewes, now with lamb by a buck selected from the recent imported flock of John A. Taintor, Esq., of Hartford, Conn.—25 bucks, one year old last spring, from the above ewes, sired by the Rambouillet buck Chancellor, and 50 lambs, the increase of last year, sired by the celebrated Rambouillet buck Grandee, now owned by the Rev. L. C. Bingham, of this place. As to purity of blood, fineness and weight of fleece, and strength of constitution, they are excelled by no Merinos in the country. The buck purchased from the recent importation of Mr. Taintor will also be offered for sale. To those wishing to improve their sheep, or those wishing to start a new flock, the present offers a rare opportunity, as they will be sold without reserve. Communications addressed to the subscriber will receive immediate attention.

THOS. H. CANFIELD.

Williston, Vt., Jan. 17th, 1848.

1848

SHORT-HORN STOCK FOR SALE.

THE Subscriber has a few Young Thorough-bred Durhams on his farm, two and a half miles from this city, which he offers for sale, viz.: 1 Two-year old Bull; 1 Yearling Bull; 2 do about 8 months old; 6 Yearling Heifers; 2 Two-year-old Heifers; and a few Spring Calves (bulls and heifers). These young animals were all got by his imported Bates bull, Duke of Wellington, and his premium bull, Meteor; also, a Bates bull, got by the bull Duke of Wellington, out of Duchess.

The dams of some of these young animals are from imported cows (other than from the Bates breed), and from Durham cows bred in this country, and good milkers. The sires being from the celebrated herd of Thomas Bates, Esq., renders them valuable as a cross on other Durhams, as well as to farmers who wish improved stock. The estimation put upon this strain of blood by those who are acquainted with it, can be appreciated, by stating that the only bull calves, which I have had to dispose of, from Bates bulls and cows (three in number), have been sold at \$300 each.

These animals will be sold at prices ranging from \$100 to \$150.

GEO. VAIL.

my 6t

Troy, N. Y., May 1st, 1848.

FIELD AND GARDEN SEEDS.

POLE and Dwarf Beans, Beet and Mangold Wurtzel, Cabbage, Carrot, Cucumber, Melon, Onion, Peas, Pumpkin, Radish, Rutabaga, Squash, Tomato, Turnip, and a great variety of other seeds of the best kinds for sale at the New York Agricultural Warehouse and Seed Store, 189 and 191 Water street, New York.

A. B. ALLEN & CO.

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